# **Assembly and Operating Manual**



# **Scaffolding lifts** For the transport of burdens



EC Declaration of Conformity		
The manufacturer GEDA-Dechentreiter GmbH & Co. KG Mertinger Str. 60		
DE-86663 Asbach-Bäumenheim hereby declares that the machine		
Designation: Construction hoist for material transport to erect scaffolding (Rope winch for temporary use on construction sites by authorised persons)		
Type: GEDA <sup>®</sup> MINI 60 S Serial No. 15000		
GEDA <sup>®</sup> MAXI 120 S Serial No. 11102		
<b>GEDA<sup>®</sup> MAXI 120 S (110 V/50 Hz)</b> Serial No. 14277		
GEDA <sup>®</sup> MAXI 150 S Serial No. 10969		
Year of construction: Refer to identification 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/ECMachinery DirectiveAppendix VIII2006/95/ECLow Voltage DirectiveAppendix IV2004/108/ECEMC DirectiveAppendix IV2000/14/ECNoise Emissions DirectiveAppendix VApplied (harmonised) standards: EN ISO 12100:2010EN 60204-1/32		
Measured noise level $(L_{WA})$ 75 dB (A) Ensured noise level $(L_{WA})$ 78 dB (A)		
This EC conformity declaration becomes null and void if any changes are made to the aforementioned machine that have not been authorised by the manufacturer. Authorised representative for technical documentation is the signatory.		
Jen		
 Asbach-Bäumenheim 02.03.2015 Johann Sailer (Managing Director)		

# Table of Contents:

### Chapter

4	Cond	and Information	F
		Information about the instruction manual	. 5
	1.1		. 0
	1.2	ADDIEVIDIONS	. 1
	1.3	Information about the machine	. /
	1.4	Name and address of the manufacturer	. 0
	1.0	Instructions for the operating company	. 0
	1.0	Instructions for the operating company	.9
	1.7	Intended use	10
	1.7.1	Requirements of assembly personnel	11
	1.7.2		11
2	1.7.3	Improper use	11
2	Gene	Providual view	12
	2.1	Residual fisks	12
	2.2	Safety instructions for operating personnel	13
	2.3	Safety instructions for transport	14
	2.4	Safety instructions for operation	15
	2.5	Safety instructions for servicing, maintenance and troubleshooting	10
~	2.0 <b>T</b> a a h	Salety whilst working on the electrics	18
3	1 ecn	nical description	19
	3.1	Description of function	19
	3.2		21
	3.2.1		21
	3.2.2	GEDA MAXI 120 5 / 150 5	22
	3.2.3		23
	3.3	Equipment as accessories	24
	3.3.1 222	Auapiter	24 24
	222	Pivot ann mounting / universal pivot arm for MAXI 120 S / 150 S	24
	334	Shackle lock	20
	335	Transportation frame	20
	336	Fall protection "ECO S" / "Simple"	20
	337	Small on-site main cabinet	20
	3.4	Load carrying equipment	30
	341	Load book	30
	342	Cable sling	30
	343	Hook carrier	31
	344	Hoist sling	31
	345	Bucket hoist for 4 buckets	31
	346	Bucket support for 2 buckets	32
	347	Bucket support for 4 buckets	32
	348	65 litre tilting bucket	32
	349	65 litre mortar silo	33
	3.4.1	0 Wire mesh cage with wooden palette	33
	3.4.1	1 Hoisting cage with wooden palette	34
	3.4.1	2 Slab grab	34
	3.4.1	3 Chain suspension for wheel barrows	35
	3.5	Technical Data	36
	3.5.1	Operating and environmental conditions	36
	3.5.2	Data for MINI 60 S	37
	3.5.3	Data for MAXI 120 S	38
	3.5.1	Data for MAXI 120 S / 110 V and MAXI / 120 V	39
	3.5.2	Data for MAXI 150 S	40
	3.5.3	Wire rope	41
	3.5.4	Noise emissions	41
	3.5.5	Pivot arm	42
	3.5.6	Pivot arm 300 kg [660 lb] and hook block 300 kg [660 lb]	43

Chapter

Page

#### Transport ...... 44 4 41 Transportation of the machine ...... 44 4.2 4.2.1 4.2.2 4.2.1 5 5.1 5.2 5.3 5.3.1 5.3.2 5321 5.3.2.2 Universal pivot arm for the GEDA MAXI 120 S/150 S...... 51 5.3.2.3 Pivot arm 300 kg [660 lb] for the GEDA MAXI 150 S...... 52 5.3.2.4 5.3.3 5.3.4 5.4 5.5 6 6.1 6.1.1 6.2 6.3 6.4 7 Maintenance - Checking - Cleaning ...... 63 8 8.1 8.1.1 8.1.2 8.1.3 8.1.4 8.1.5 8.2 8.3 8.3.1 8.3.2 8.3.3 Non-twisting device with load hook ......72 8.3.4 8.3.5 8.3.6 8.3.7 Load carrying equipment ......74 9 9.1 9.2 9.2.1 9.2.2 9.2.3 Slack rope switch operated ......78 9.2.4 9.3 10 11 12

# **1** General Information

# 1.1 Information about the instruction manual

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

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

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

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

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

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

### Images

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

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



# Health and safety symbol

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

Warning level		Consequence	Probability
$\wedge$	DANGER	Death / serious injury	is imminent
⚠	WARNING	serious injury	possible
	CAUTION	minor injury	possible
	CAUTION	tangible damage	possible



### Attention information

This is found at points where special information or instructions and restrictions regarding damage prevention are given in order to prevent damage to the equipment.



### Note

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

# 1.2 Abbreviations

The following abbreviations may be used in the manual.

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

# 1.3 Information about the machine

Machine model	GEDA <sup>®</sup> MINI 60 S GEDA <sup>®</sup> MAXI 120 S GEDA <sup>®</sup> MAXI 150 S
Year of construction:	Refer to nameplate
Works number:	15000 11102 14277 10969
Documentation version:	03/2015

# 1.4 Name and address of the manufacturer

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# 1.5 Notes about the author and industrial property rights

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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 Instructions for the operating company

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

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

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

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

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

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

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

Only employ **qualified and / or trained personnel** for the tasks described in this manual.

The operating company clearly defines the responsibilities of the personnel for operation / assembly / maintenance.

The operating company is obliged to train all persons authorised to use the machine in the correct handling of the machine before using it for the first time, according to the respective area of activity and responsibility of the authorised individual and using practical exercises.

This **training** must be documented and **repeated at regular intervals**. The legally permissible minimum age must be observed!

# 1.7 Intended use

The scaffolding lift **GEDA MINI 60 S** and **GEDA MAXI 120 S/150 S** is a temporary hoist installation erected and

- which is intended exclusively for putting up scaffolding and for transporting items and materials during construction work.
- which may only be operated at a wind speed of up to 72 km/s (20 m/sec. ≈ wind force 7-8 according to the Beaufort scale).
- which must have its load parked on the ground and the rope winch taken out of operation at higher wind speeds.

Observe and comply with the instructions in Chapter 3.5, "Technical specifications".

Any other use or any use (e.g. transportation of persons) going beyond this is not considered intended use.

The operating company / user of the machine is solely liable for any damage resulting from such action. This applies equally to any arbitrary changes to the machine.

### Intended use includes

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



The GEDA MINI 60 S and GEDA MAXI 120 S/150 S is suitable for temporary use on construction sites. Any other locations or intended uses require written approval from the manufacturer.

### 1.7.1 Requirements of assembly personnel

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

# 1.7.2 Operating personnel

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

These persons must

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

### 1.7.3 Improper use

- The GEDA MINI 60 S and GEDA MAXI 120 S/150 S is not designed for permanent assembly.
- Persons who have not been instructed about the machine and are not familiar with the operating manual, or children, must not operate the GEDA MINI 60 S and GEDA MAXI 120 S/150 S.

### Consequences of improper use of equipment

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

# 2 General safety information

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

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

Attached notices and warning signs must be observed!

### Consequences of not complying with safety instructions

Non-compliance with safety instructions can result in danger both for personnel as well as for the environment and the machine. Noncompliance can lead to the forfeiture of any damage compensation claims.

# 2.1 Residual risks

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

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



# Caution

- Hazards due to incorrect anchoring of the vertical frame of the scaffolding.
- Do not remove safety stickers; replace any safety instructions that have become illegible.
- Hazards due to toppling of an improperly secured load.
- Hazards from damage to the load carrying equipment.
- Hazards when working on the electrical system.
- Hazards from a malfunction in the control system.
- Injuries due to uncoordinated work methods.
- Hazards due to high wind speeds (> 72 km/h).

# 2.2 Safety instructions for operating personnel

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

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

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

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

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



# WARNING

### Risk of injury

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



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

# 2.3 Safety instructions for transport

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

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

Never step under suspended loads!

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

When selecting hoisting equipment, always take into account the **max-imum suspended loads!** 

Please refer to the dimensions and weights in the technical specifications chapter (3.5).

Only carefully load and transport equipment that has been **disassembled**, **packaged and lashed**.

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

Observe the pictograms on the packaging.

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

Always secure transported loads against falling or tipping over!

# 2.4 Safety instructions for operation

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

If **work is interrupted**, disconnect the **mains plug** and secure against connecting.

Fundamentally, the machine must be **secured against unauthorised use** (disconnect from power)!

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

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

No persons must stand under suspended loads. Ensure that the danger zone is suitably cordoned off at the construction site and identified. Protection to prevent persons from falling must be provided at loading heights above 2.0 m.

# 2.5 Safety instructions for servicing, maintenance and troubleshooting

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

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

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

Fundamentally, before any maintenance work on the machine – unload.

- disconnect the mains plug.

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

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### For further instructions about maintenance / maintenance intervals / servicing, refer to the Chapter Maintenance.

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

- Activate the EMERGENCY STOP button,
- Place a warning sign at the mains plug.

Any faults that could impair safety must be rectified immediately.

**Workshop equipment** that is suitable for the specific work is imperative for carrying out **servicing and maintenance tasks**. When carrying out maintenance tasks at greater height, a fall-protection device must be worn! Keep all handles, railings and the scaffolding from dirt and contamination. Before starting servicing/repair tasks **clean** the machine, in particular connections and screw connections, from oil, operating fluids, contamination and maintenance products. Abrasive cleaning agents must not be used. **Loosened screw connections** during servicing and maintenance tasks must always be **tightened** using the necessary **torques**!

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

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

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

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

P

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

# 2.6 Safety whilst working on the electrics

In the event of **malfunctions of the electrical installations** on the machine, immediately stop it by disconnecting the mains plug!

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

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

If it is necessary to carry out **tasks on energized components** (only in exceptional situations), an **additional person** is required to activate the **EMERGENCY STOP** button or disconnect the mains plug in an emergency. Only use insulated tools!

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

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

# 3 Technical description

# 3.1 Description of function

The scaffolding lifts **GEDA MINI 60 S** and **GEDA MAXI 120 S/150 S** have two levels of speed, whereas the slow level is provided mainly for commencing the lifting or sinking movement without jolts. For the most part the equipment should be operated in the fast level. It is also possible to stop more smoothly using the first speed level. The control switch accordingly has two pressure points.

Control is carried out using the manual control, from outside the hazard area. The length of the line for the manual control is 10 m [33 ft].

If the pivot arm hoist should be operated from above, then it is possible by plugging in manual controls with long cables of 30 m [98 ft] or 50 m [164 ft] (accessories).



# WARNING

Risk of injury

It must be ensured that the hanging load can always be observed from the operating position.

 In the event of exceeding the load capacity and the rope weight moving against the pivot arm, the winch lifts itself and switches off the UP movement.

Subsequently, it is possible to move in the **DOWN** direction.

 In the event of "Slack rope", the flexible drum guard switches off the control in both directions.

If the upward travel was automatically switched off because of an accumulation of slack in the cable, then the upward travel is only released after the cable was manually tightened.

• The safety devices for the loading and unloading points are also included in the assembly of the hoist (refer to Chapter 5.4).

The scaffolding lifts are especially designed for 1½" pipe scaffolding. If you should use scaffolding with other dimensions, please contact your dealer or the manufacturer, who can offer you an adapter or special design.



# CAUTION

The rope winches **GEDA MINI 60 S, MAXI 120 S/150 S** must only be used with a pivot arm using the rope winches!

# 3.2 Machine equipment

## 3.2.1 GEDA MINI 60 S





#### GEDA MAXI 120 S / 150 S 3.2.2

# 3.2.3 Ground control (manual control)

- 1 = **EMERGENCY STOP** button
- 2 = **UP** button
- 3 =**DOWN** button
- 4 = Hanging bracket

The two-stage manual control is available with three lengths of line.

- Control 10 m
- Control 30 m
- Control 50 m



#### 3.3 Equipment as accessories

#### 3.3.1 Adapter

For adapting the pivot arm to a vertical frame (scaffolding) without protruding crossbar studs.

Item No. 01409 Weight: 0.6 kg [1.3 lb]

- 1 = Adapter 2 = Vertical frame(scaffolding)
- 3 = Pivot arm

Item No. 01407



#### Pivot arm mounting for MINI 60 S 3.3.2

The pivot arm mounting serves for fastening the pivot arm between scaffolding levels.



Item No. 29497

#### 3.3.3 Pivot arm mounting / universal pivot arm for MAXI 120 S / 150 S

The pivot arm mounting serves for fastening the pivot arm between scaffolding levels.



# Universal pivot arm

Item No. 01267 Lifting capacity: max. 150 kg Weight: 24.6 kg [54 lb]

Comprising of

- Pivot arm Item No. 05711 (1) and
- Pivot arm mounting Item No. 29197 (2)



# 3.3.4 Shackle lock

Is used to secure the winch on the vertical frame (scaffolding).

Item No. 01429 Weight: 1.1 kg [2.4 lb]

Guide the open shackle through the holes on the triangular frame and vertical frame (scaffolding).



 $\succ$  Place the body of the lock on the shackle and close.

# 3.3.5 Transportation frame

The "transportation frame" can be used for safer and easier transportation of the scaffolding lifts **GEDA MINI 60 S** and **GEDA MAXI 120 S/150 S**.

The machine is attached by bolts to the transportation frame on the scaffolding and can remain there.

The clamp lock (2b) secures the machine on the transportation frame (1).

As an option, the transportation frame (1) can be removed after attaching the machine to the scaffolding.

Item No. 47760 Weight: 19 kg [42 lb]

1 = Wheels 2 = Machine mounting



For adaptation to different scaffolding, the machine mounting (2) can be attached by the eye bolt (2a) in three different positions. (Adjustment range 80 mm [31 in] upwards and downwards).

2a

1

### Assembly

The machine must be moved by two persons to insert the machine in the transportation frame.

The holding positions are on the handle and triangular frame.

- Place the machine in the transportation frame so that the triangular frame rests in the machine mounting (2).
- Use the clamp lock (2b) to attach the machine in the transportation frame.
- > Drive the machine to the location of use.
- Assemble the machine on the vertical frame of the scaffolding.
   (Also refer to Chapter 5)
- To remove the chassis, open the clamp lock (2b) and pull out the transportation frame (1).





2b

2



# 3.3.6 Fall protection "ECO S" / "Simple"

Protect against persons falling from heights of more than 2 m [6.5 ft]. (Refer to national provisions)

### Landing-level safety gate "ECO S"

Item No. 42500 Width: 0.85 m [2.8 ft] Weight: 22 kg [48 lb]

- 1 = Landing level safety gate
- 2 = Railing rope hoists



# "Simple" loading point protection rails

Item No. 01206 Width: 1.4 m [4.5 ft] Weight: 29 kg [64 lb]

5 = Safety gate



# 3.3.7 Small on-site main cabinet

Construction lifts must be operated via a building site mains distributor. (Refer to national provisions)

# Assembly

- Drive the earthing rod (5) into the ground.
- Route the PE conductor (4) of the small on-site main cabinet to the earthing rod (5) and connect it there.
- Connect the mains line (1) of the small on-site main cabinet to the mains supply on the construction site.

Item No. 02823 Weight: 8 kg [18 lb]

P



Test the trigger ability of the Residual Current Device (RCD) by pressing the test button (2).

Connect the mains plug of the scaffolding lift (3) at the small on-site main cabinet.

# 3.4 Load carrying equipment

### **Slinging equipment**

Slinging equipment is not part of the equipment included in the lifting gear which establishes a connection between the suspension equipment and load or suspension equipment and load carrying equipment.

### Lifting equipment

Load carrying equipment is not a part of the equipment included in the lifting gear that can be connected to the suspension equipment of the lifting ear to accept the load. (BGR 500)

# 3.4.1 Load hook

For transporting scaffolding parts.

Item No. 01408 Lifting capacity: max. 30 kg [66 lb] Weight: 0.5 kg [1.1 lb]

Suitable for all scaffolding lifts



# 3.4.2 Cable sling

To accept multiple load hooks.

Item No. 03066 Load capacity: max. 30 kg [66 lb] Weight: 0.1 kg [0.2 lb]

Suitable for all scaffolding lifts



# 3.4.3 Hook carrier

For 5 load hooks.

Item No. 01827 Load capacity: max. 150 kg [330 lb] Weight: 2.3 kg [5 lb]

Delivery without load hook

Suitable for all scaffolding lifts



# 3.4.4 Hoist sling

For transporting scaffolding parts.

Item No. 01432 Load capacity: max. 500 kg [1100 lb] Weight: 0.5 kg [1.1 lb]

Suitable for all scaffolding lifts



# 3.4.5 Bucket hoist for 4 buckets

For hanging 2 or 4 buckets.



# Only use suitable buckets!

Item No. 01812 Load capacity: max. 150 kg [1100 lb] Weight: 4 kg [9 lb]

Dimensions: 0.44 m × 0.44 m [1.4 ft × 1.4 ft] Height: 0.12 m [0.4 ft]

Suitable for MAXI 120 S / 150 S



# 3.4.6 Bucket support for 2 buckets

For 2 round or oval buckets or 1 large oval bucket

Item No. 01810 Load capacity: max. 75 kg [165 lb] Weight: 4.4 kg [10 lb]

Internal dimensions: 0.66 m × 0.32 m [2.2 ft × 1 ft] Height: 0.50 m [1.6 ft]

Suitable for all scaffolding lifts



# 3.4.7 Bucket support for 4 buckets

For 2 or 4 round or oval buckets

Item No. 01811 Load capacity: max. 150 kg [330 lb] Weight: 9 kg [20 lb]

Ø Bucket: max.0.32 m [1 ft]
Dimensions: 0.85 m x 0.70 m [2.8 ft x 2.3 ft]
Height: 0.48 m [1.6 ft]

Suitable for MAXI 120 S / 150 S



# 3.4.8 65 litre tilting bucket

Item No. 01814 Load capacity: max. 150 kg [330 lb] Weight: 16 kg [35 lb]

Volume: max.65 litres [17 gallons] Internal dimensions:  $0.50 \text{ m} \times 0.35 \text{ m} [1.6 \text{ ft} \times 1.1 \text{ ft}$ Height: 0.40 m [1.3 ft]

Overall dimensions: 0.61 m  $\times$  0.41 m [2 ft  $\times$  1.3 ft] Height: 0.62 m [2 ft]

Suitable for MAXI 120 S / 150 S



> To tip out, open the safety device ( $\overline{2}$ ) and tilt bucket (1).

# 3.4.9 65 litre mortar silo

Item No. 01815 Load capacity: max. 150 kg [330 lb] Weight: 23.3 kg [51 lb]

Volume: max.65 litres [17 gallons] Overall dimensions:  $0.74 \text{ m} \times 0.52 \text{ m} [2.4 \text{ ft} \times 1.7 \text{ ft}]$ Height: 0.55 m [1.8 ft] $\varnothing$  Ring: max.0.60 m [2 ft]

### Suitable for MAXI 120 S / 150 S



Open flap with lever (1) for unloading.

### 3.4.10 Wire mesh cage with wooden palette

Item No. 01816 Load capacity: max. 150 kg [330 lb] Weight: 21 kg [46 lb]

Internal dimensions: 0.64 m × 0.34 m [2.1 ft × 1.1 ft] Height: 0.50 m [1.6 ft]

Overall dimensions: 0.70 m × 0.44 m [2.3 ft × 1.4 ft] Height: 0.67 m [2.2 ft]

### Suitable for MAXI 120 S / 150 S

### Loading

- Stack the load on the palette (2).
- Raise the safety device (1a), pull the lever (1b) towards the centre of the cage.
- Raise the wire mesh cage (1) above the load until it rests on the pallet (2).
- Turn the lever (1b) so it is vertical and slide the safety device (1a) down.

### Unloading

- Raise the safety device (1a), pull the lever (1b) towards the centre of the cage.
- $\succ$  Raise the mesh cage (1) above the load and place to the side.
- Unload palette (2).



# **3.4.11** Hoisting cage with wooden palette

Item No. 01820 Load capacity: max. 150 kg [330 lb] Weight: 38 kg [84 lb]

Internal dimensions: 0.95 m × 0.60 m [3.1 ft × 2 ft] Height: 0.45 m [1.5 ft]

Overall dimensions: 1.01 m × 0.69 m [3.6 ft × 2.3 ft] Height: 0,62 m 2 1 1a

### Suitable for MAXI 120 S / 150 S

### Loading

- > Stack the load on the palette (2).
- Raise the safety device (1a), pull the lever (1b) towards the centre of the cage.
- Raise the hoisting cage (1) above the load until it rests on the pallet (2).
- Turn the lever (1b) so it is vertical and slide the safety device (1a) down.

### Unloading

- Raise the safety device (1a), pull the lever (1b) towards the centre of the cage.
- $\succ$  Raise the hoisting cage (1) above the load and place to the side.
- ➤ Unload palette (2).

### 3.4.12 Slab grab

Item No. 01819 Load capacity: max. 150 kg [330 lb] Weight: 24 kg [53 lb]

Loading dimensions:  $1.33 \text{ m} \times 0.13 \text{ m} [4.4 \text{ ft} \times 0.4 \text{ ft}]$ Height: 1.31 m to 1.56 m (Adjustable) [4.3 ft to 5.1 ft]

Suitable for MAXI 120 S / 150 S



# 3.4.13 Chain suspension for wheel barrows

Item No. 01817 Load capacity: max. 150 kg [330 lb] Weight: 4 kg [8 lb]

Suitable for MAXI 120 S / 150 S





# 3.5 Technical Data

### 3.5.1 Operating and environmental conditions

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

Temperature range:	minimum	−20 °C [−4 °F]	
	maximum	+40 °C [104 °F]	
Wind speed:			
Operation / maintenance / servicing	maximum	72 km/h	
	[USA maximum 35 mph]		
Installation	maximum	45 km/h	
	[USA maximum 28 mph]		

Weather conditions: No storms with risk of lightning.

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

### Atmosphere:

No concentration of aggressive / corrosive substances, as well as (potentially explosive (fine particulate matter) must occur. If this cannot be safely excluded, then the corrosion protection and/or the functional reliability of the electrical components must be inspected at regular intervals and, if necessary, replaced. Fine particulate matter must be removed.

### Location of storage:

In order to prevent corrosion, if possible the machine should be stored in dry air.
# 3.5.2 Data for MINI 60 S

Mains voltage	230 V/50 Hz / 1 Ph+N+PE
Capacity 1. Speed 2. Speed	0.25 kW at 900 min <sup>-1</sup> / 0.75 kW at 2700 min <sup>-1</sup>
Current consumption (I <sub>N</sub> )	2.6 A / 5.2 A
Switch-on period (ED)	S3 (60 %)
Protection class	IP 44
Lifting capacity	max. 60 kg
Lifting speed 1. Speed (starting / stopping without jerking)	max. 23 m/min
2. Speed (Travel)	max. 69 m/min
Lifting height	25 m / 40 m
Weight	
with 51 m rope	50 kg
with 81 m rope	55 kg
Packaging dimensions (length × width × height)	0.63 m × 0.53 m × 0.48 m

# 3.5.3 Data for MAXI 120 S

Mains voltage	230 V/50 Hz / 1 Ph+N+PE	
Capacity 1. Speed 2. Speed	0.45 kW at 900 min <sup>-1</sup> / 1.35 kW at 2700 min <sup>-1</sup>	
Current consumption (I <sub>N</sub> )	5 A / 9 A	
Switch-on period (ED)	S3 (60 %)	
Protection class	IP 44	
Lifting capacity	max. 120 kg	
Lifting speed 1. Speed (starting/stopping without jerking)	max. 20 m/min	
2. Speed (Travel)	max. 60 m/min	
Lifting height	25 m / 40 m	
Weight with 51 m rope with 81 m rope	60 kg 65 kg	
Packaging dimensions (length × width × height)	0.63 m × 0.63 m × 0.65 m	

# 3.5.1 Data for MAXI 120 S / 110 V and MAXI / 120 V

Mains voltage	110 V/50 Hz / 1 Ph+N+PE 120 V/60 Hz / 1 Ph+N+PE
Capacity 1. Speed	0.45 kW (50 Hz) 0.5 kW [0.6 hp] (60 Hz)
2. Speed	1.35 kW (50 Hz) 1.5 kW [1.8 hp] (60 Hz)
Current consumption (I <sub>N</sub> )	6.7 A / 15.2 A
Switch-on period (ED)	S3 (60 %)
Protection class	IP 44
Load capacity	max. 120 kg [265 lb]
Lifting speed 1. Speed (starting / stopping without jerking)	max. 13 m/min (50 Hz) max. 15 m/min [67 ft/min] (60 Hz)
2. Speed (Travel)	max. 39 m/min (50 Hz) max. 45 m/min [200 ft/min] (60 Hz)
Lifting height	25 m / 40 m [82 ft / 130 ft]
Weight with 51 m rope	60 ka [132 lb]
with 81 m rope	65 kg [143 lb]
Packaging dimensions (length × width × height)	0.63 m × 0.63 m × 0.65 m [2.07 ft × 2.07 ft × 2.13 ft]

# 3.5.2 Data for MAXI 150 S

Mains voltage	230 V/50 Hz / 1 Ph+N+PE	
Capacity 1. Speed 2. Speed	0.45 kW at 900 min <sup>-1</sup> / 1.35 kW at 2700 min <sup>-1</sup>	
Current consumption (I <sub>N</sub> )	5 A / 9 A	
Switch-on period (ED)	S3 (60 %)	
Protection class	IP 44	
Lifting capacity	max. 150 kg	
Lifting speed 1. Speed (starting / stopping without jerking)	max. 15 m/min	
2. Speed (Travel)	max. 45 m/min	
Lifting height	25 m / 40 m	
Weight with 51 m rope with 81 m rope	60 kg 65 kg	
Packaging dimensions (length × width × height)	0.63 m × 0.63 m × 0.65 m	

# 3.5.3 Wire rope

Ø / Type / standard	4.5 mm / FEC-PP -zn [k-1770 zS] / EN 12385-4:2008-06 [0.2 in]
Rope length	51 m or 81 m [167 ft or 266 ft]
Rope uptake capacity of the rope drum	81 m [266 ft]

# 3.5.4 Noise emissions

Noise level (L<sub>WA</sub>)

< 78 dB (A)

#### 3.5.5 Pivot arm

Only the pivot arm with reinforcement (1) (welded gusset plate) is designed for a bearing capacity of 150 kg (see also imprint (2) on the pivot arm).



Load capacity

Weight

Turning unit (Pivot radius)

Dimensions (length × width × height) max. 150 kg [330 lb] 11.7 kg [26 lb] 0.85 m [2.8 ft]

1.20 m × 0.70 m × 0.10 m [3.9 ft × 2.3 ft × 0.3 ft]



#### 3.5.6 Pivot arm 300 kg [660 lb] and hook block 300 kg [660 lb]

By using the pivot arm 300 kg [660 lb] and hook block 300 kg [660 lb], the load capacity of the scaffolding lift **GEDA Maxi 150 S** can be doubled (pulley block principle). Operation of the hoist is not changed by using the parts. Only the lifting speed and height changes.



# WARNING

**Risk of injury** Only **slinging equipment and load carrying equipment** must be used that is suitable for the **load capacity of 300 kg [660 lb]**.

1 = Pivot arm 300 kg [max. 660 lb] Item No.: 01272

2 = Hook block 300 kg [max. 660 lb] Item No.: 01273

Lifting capacity	max. 300 kg [max. 660 lb]
Weight	21 kg [64 lb]
Pivot frame (Pivot radius)	0.85 m [2.8 ft]



#### Lifting speed (Maxi 150 S) with hook block

1. Speed (starting / stopping without jerking)

max. 7 m/min [23 ft/min]

2. Speed (Travel) max. 22 m/min [72 ft/min]

#### Lifting heights with hook block

MAXI 150 S	Rope length	Lifting height
Winch installed at bottom	51 m [167 ft]	16 m [53 ft]
Winch installed at top	51 m [167 ft]	22 m [72 ft]
Winch installed at bottom	81 m [266 ft]	26 m [85 ft]
Winch installed at top	81 m [266 ft]	37 m [121 ft]

# 4 Transport



#### WARNING Risk of injury

Have the scaffolding lift transported by experienced and competent persons.

# 4.1 Inspection on receiving the scaffolding lift

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

### 4.2 Transportation of the machine

Minimum weight of the winch 50 kg [110 lb] (depending on the length and weight of the rope). For the weight of the winches, refer to Chapter 3.5

#### 4.2.1 Transportation by persons



# WARNING

**Risk of injury** Only lift the winch using two persons! The weight of the winch is too great for one person to lift.

The winch can be moved by two persons to assemble on the scaffolding.

The winch can be held by the handle (1) and on the triangular frame (2).



# 4.2.2 Transportation using lifting equipment

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

If lifting equipment is available, there is the option to suspend the device from a load hook.

Suspend the load hook (3) in the holes provided for the safety bar closure.



# 4.2.1 Transportation using a transportation frame

The transportation frame (4) is used for easier transportation of the winch in the stores and on the construction site.

The machine is attached by bolts to the transportation frame (4) on the scaffolding and can remain there.



5

# Assembly

The scaffolding lift must be installed according to the assembly and operating manual under supervision by a qualified person, specifically appointed by the operating company!

Assembly personnel, refer to Chapter 1.7.1

#### 5.1 Safety during assembly

- Also observe the safety instructions in Chapter 2.
- Before starting work at the place of utilisation, acquaint yourself with the working environment, e.g. obstacles in the work and traffic areas and necessary safeguarding of the construction site from public transport.
- Before each installation, check whether the wire rope, mains feed line and control with cable are in a serviceable condition. Do not operate the scaffolding lift if damaged! - Immediately replace damaged parts.
- Cordon off the danger zone of the scaffolding lift (red-white chain, etc.) and label with a warning sign.



# DANGER

#### Danger to life

Do not stand or work beneath the hanging load!

Never remain inside the cordoned-off area during operation.

- Protection to prevent persons from falling must be provided at a height of more than 2.0 m [6.5 ft], which must prevent persons from falling (as necessary, install landing-level safety gates).
- Observe the load capacity of the scaffolding lift.
- Wear personal protective equipment (e.g. safety helmet, safety shoes, fall protection).

# 5.2 Assembly procedure

The installation plan shows the basic assembly stages and their chronological sequence. However, assembly is in principle based on the detailed instructions in this manual. Depending on the working equipment available / number of installation engineers, tasks may be carried out in parallel or the sequence of the installation steps may be changed. If the sequence is changed, the amended installation plan must be checked by the operating company to ensure that it is sensible and that there are no potential hazards and must be subsequently approved.



#### 5.3 Assembling scaffolding lift

The machine must only be installed and deployed vertically! The pivot arm is suspended on the upper end of the same vertical pipe as the winch.

#### 5.3.1 Installing the winch

The scaffolding lifts GEDA MINI 60 S, as well as GEDA MAXI 120 S and GEDA MAXI 150 S are specifically designed for  $1\frac{1}{2}$ " pipe scaffolding.

If you should use scaffolding with other dimension, please contact your dealer or the manufacturer, who can offer you an adapter or special design.

- Use the welded pipe clamps and loosely install the winch (1) on the vertical frame (2) of the scaffolding.
- Align so that the rope drum is parallel to the scaffolding.
- Fully tighten the pipe bolts.

Tightening torque **50 Nm [37 lbf ft],** width across flats (AF) 22 mm





The vertical frame (2) of the scaffolding on which the scaffolding lift is installed, must be aligned vertically.

#### 5.3.2 Installing the pivot arms

The pivot arm for the scaffolding lifts **GEDA MINI 60 S** and **GEDA MAXI 120 S / 150 S** are the same, but have different pivot arm mountings, which must be used correctly for static purposes.

#### 5.3.2.1 Pivot arm for the MINI 60 S

The pivot arm, without pivot arm mounting, is only intended for installation on the upper-most scaffolding pipe.

Put the pivot arm (3) into the top level of scaffolding, on the protruding pipe of the vertical frame (4) (above the winch).



Rotate the pivot arm (3) towards the scaffolding to thread the wire rope and secure on the star handle (3a) against rotating.

For scaffolding without protruding crossbar studs on the vertical pipe, use the adapter Item No.:1409.

It is connected to the pivot arm (1) and, thus, protrudes into the pipe of the scaffolding support.



The vertical frame (3), on which the pivot arm hangs, must be anchored above and below to the building (tensile and compression proof anchor) and additionally secured with cross stays.

#### Anchoring forces = minimum 1.0 kN [0.22 kip]

#### 5.3.2.2 Use with pivot arm mounting

The pivot arm mounting serves for fastening the pivot arm between scaffolding levels.

- Attach the pivot arm mounting (5) for the MINI 60 S (with adjustable attachment at the top) to the vertical pipe (3) so that it points outwards from the scaffolding.
- Place the pivot arm (3) and secure by fully tightening the star handle (3a).

The upper fastener of the pivot arm mounting is adjustable so that it can be adjusted in height in order to be able to swing inward the pivot arm (3) within the above scaffolding level.



- It must be ensured that both fasteners of the pivot arm mounting are fastened as closely as possible to the intersections of the scaffolding.
- The vertical frame (4), on which the pivot arm mounting with pivot arm is suspended, must be anchored above and below to the building (tensile and compression proof anchor) and additionally secured with cross stays.

Anchoring forces = minimum 1.0 kN [0.22 kip]

# CAUTION

The pivot arm mounting Art.-No. 1407 (also refer to the type plate on the pivot arm mounting) must only be used for the MINI 60 S.

#### 5.3.2.3 Universal pivot arm for the GEDA MAXI 120 S/150 S

Universal pivot arm comprising of

- Pivot arm with reinforcing Item No. 05711 and
- Pivot arm mounting for load capacity 150 kg Item No. 29197

# WARNINGDanger to lifeOnly use pivot arm with reinforcement (refer to the stamp on the<br/>pivot arm max. load capacity 150 kg).Only use pivot arm mounting for load capacity 150 kg (refer plate<br/>on the pivot arm mounting).

The pivot arm mounting serves for fastening the pivot arm between scaffolding levels.

- Attach the pivot arm mounting (6) for the MAXI 120 S/150 S (with adjustable attachment at the top) to the vertical pipe (4) so that it points outwards from the scaffolding
- Place the pivot arm (3) and secure by fully tightening the star handle (3a).

The upper fastener of the pivot arm mounting is adjustable so that it can be adjusted in height in order to be able to swing inward the pivot arm (3) within the above scaffolding level.



It must be ensured that both fasteners of the pivot arm mounting are fastened as closely as possible to the intersections of the scaf-folding.

The vertical frame (4), on which the pivot arm mounting with pivot arm is suspended, must be anchored above and below to the building (tensile and compression proof anchor) and additionally secured with cross stays.

Anchoring forces = minimum 1.5 kN [0.34 kip]

### 5.3.2.4 Pivot arm 300 kg [660 lb] for the GEDA MAXI 150 S

The hook block 300 kg [660 lb] Item No. 01273 is installed on the pivot arm 300 kg [660 lb] Item No. 01272.

 Attach the pivot arm 300 kg [660 lb] (7) (with adjustable attachment at the top) to the vertical pipe (4) so that it points outwards from the scaffolding.
 The attachment of the upper pivot arm 300 kg [660 lb] is adjustable, thus, it can be adjusted in height in order to be able to swing inward the upper rope pulley (7a) below the above scaffolding level.



It must be ensured that both fasteners of the pivot arm mounting are fastened as closely as possible to the intersections of the scaffolding.

The vertical frame (4), on which the pivot arm 300 kg [660 lb] is suspended, must be anchored above and below to the building (tensile and compression proof anchor) and additionally secured with cross stays.

#### Anchoring forces = minimum 2.5 kN [0.56 kip]

#### Swivelling the pivot arm

Press down the locking device (7a) and swivel the pivot arm.



#### Assembling the hook block

Assembling the wire rope, refer to Chapter 5.3.4

Hook the non-twisting device with load hook (8) of the wire rope into the eye (7b) of the pivot arm.



- Remove the spring cotter pin on the locking pin (9a) of the hook block (9).
- Pull out the locking pin (9a) from the hook block (9).
- Remove the rope pulley (9b) of the hook block (9).



- Guide the loop of the wire rope through the top aperture of the hook block (9).
- Place the loop around the rope pulley (9b) and pull both back into the hook block (9).
- Attach the rope pulley (9b) with the locking pin (9a).



Secure locking pin (9a) with the spring cotter pin.

The pivot arm 300 kg (7) must only be operated when it is in the swung out position!



### 5.3.3 Electrical connection of the winch

A site distribution cabinet (in accordance with IEC 60439-4:2005) with fuse protection of the supply point

**min. 1 × 16 A** slow-blow and a **Residual Current Device** (RCD) required.

As an extension to the mains feed line, connect a rubber hose line  $3 \times 2,5 \text{ mm}^2$  directly to the building site main cabinet without any adapters from other power consumers, in order to avoid a drop in voltage and, thereby, a loss of motor power.

# Note for mains voltage 110 V / 50-60 Hz

Extension: Rubber hose line 3 × 4.0 mm<sup>2</sup> [AWG No. 11].



#### **Observe national regulations!**

- > Connect the mains plug to the construction power distribution.
- 1 = Mains supply line
- Connect the manual control to the socket (2).



### 5.3.4 Assembling the wire rope

Tension the wire rope (10) vertically upwards and, simultaneously, press the **DOWN** button on the manual control.
 In this position, the flexible drum guard (11) deactivates the slack rope switch.



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- > Unwind sufficient rope from the rope drum for the assembly height.
- Route the wire rope (10) to the pivot arm (3) and thread over the slots of the rope pulleys.



Release the pivot arm locking device, swivel the pivot arm (3) outwards and tighten the star handle (3a).

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#### Check

Suspend and lift the load (observe the load capacity). In the event of exceeding the load capacity and moving the rope weight against the pivot arm, the winch lifts itself and switches off the **UP** movement.

# 5.4 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 [6.5 ft]. (Refer to national provisions)

#### Landing-level safety gate "ECO S"



To adapt the aperture to the wire rope swivelled in, the railing of the rope hoists (2) can be installed in two positions.

#### Assembly

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- > Put landing level safety gate (1) on scaffolding.
- Align so that the swivelled in rope is guided through the aperture of the "railing rope hoists" (2).
- Attach the landinglevel safety gate to the scaffolding using suitable attachment devices (e.g. crosscouplings / parallel couplings).



For large scaffold section widths, it may also be necessary to install a horizontal scaffolding pipe (3) to attach the gate.

#### "Simple" loading point protection rails

Item No. 01206 Width: 1.4 m [4.6 ft] Weight: 29 kg [64 lb]

5 = Safety gate



#### Assembly

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#### Installation of the safety gate "Simple" to be carried out is described in its own instructions supplied.

Attach the landinglevel safety gate to the scaffolding using suitable attachment devices (e.g. crosscouplings / parallel couplings).

Aperture for rope: max. 0.15 m [0.5 ft]



Align the upper railing pipes so that when the rope is swivelled in, it is guided through the aperture.

For large scaffold section widths, it may also be necessary to install a horizontal scaffolding pipe (3) to attach the gate.

Push on the bar (5a) when operating the scaffolding lift.



# 5.5 Check after assembly and before each operation

- Check to ensure that
  - The specified maintenance work and inspection procedures have been carried out.
  - The supply cable has an adequate cross section.
  - No grease escapes at the gearbox.
  - The length of rope is sufficient for the assembly height.
  - Notices are present and legible (refer to Chapter 11)
  - The danger zone at the lower loading point is cordoned off and indicated.
  - Fall protection at the upper load positions is installed in accordance with the national regulations.
- Carry out a test run without load and check to ensure that
  - The motor rotation direction agrees with the UP and DOWN buttons of the control points and that the EMERGENCY STOP button interrupts travel.
  - The wire rope indicates no damage.
  - The flexible drum guard switches off when the rope is slack.
  - $\circ~$  The wire rope is correctly wound onto the rope drum.
- Carry out a test run **with load** (refer to the load capacity) and check to ensure that
  - The motor brake correctly functions.
  - If the load capacity is exceeded (raising the winch) and the rope weight is moved against the pivot arm, the UP motion is switched off.

6

# Operation

The scaffolding lift must only be operated by a qualified person appointed by the operating company. This person must be familiar with the operating manual, have sufficient experience and be informed about the risks involved in handling the hoisting equipment.

Operating personnel refer to Chapter 1.7.2

### 6.1 Safety during operation

- Also observe the safety instructions in Chapter 2.
- Transporting persons is prohibited!
- Do not enter the load suspension device!
- Before starting work at the place of utilisation, acquaint yourself with the working environment, e.g. obstacles in the work and traffic areas and necessary safeguarding of the construction site from public transport.
- Operation of the scaffolding lift must take place outside the danger zone.
- Keep the hanging load under constant observation from the operating position!



#### WARNING

# Danger to life

Raised load! Do not stand under suspended loads. Only lift loads at the suspension points. Only use suitable slinging / load carrying equipment.

- Do not load slinging / load carrying equipment on one side only.
- Secure the scaffolding lift thoroughly against unauthorized access! -At the end of work / breaks, etc. do not leave the manual control lying around.
- Never leave the scaffolding lift with a hanging load. First unload and/or put down the load suspension device.
- Wear personal protective gear (e.g. head gear, safety shoes).
- Operation of the scaffolding lift must be stopped if:
- Temperatures of less than -20 °C [-4] and more than +40 °C [104 °F].
- There is damage or other malfunctions.
- Recurring check is not carried out (refer to Chapter 8.1).

#### 6.1.1 Checks before starting work

Check at least once a day for externally recognisable damage and defects. - Report any changes or malfunctions detected immediately to the company management or its authorised representative. If necessary, shutdown and secure the scaffolding lift immediately.

• Carry out a test run and check that the complete travel path is clear.

#### The scaffolding lift must immediately stop when

- The **EMERGENCY STOP** button is pressed.
- The **overload equipment** is activated.

The slack rope switch has switched off.

Checking the limit switch, refer to Chapter 5.5

- During the test run, check the wire rope for signs of damage and wear.
- Check the mains supply cable and control lines for signs of damage

# 6.2 Operating the Scaffolding Lift

The scaffolding lifts **GEDA MINI 60 S** and **GEDA MAXI 120 S/150 S** have two levels of speed, whereas the slow level is provided mainly for commencing the lifting or sinking movement without jolts. For the most part the equipment should be operated in the fast level. It is also possible to stop more smoothly using the first speed level. The control switch accordingly has two pressure points.

If the upward travel was automatically switched off because of an accumulation of slack in the cable, then the upward travel is only released after the cable was manually tightened.

On the manual control, unlock the EMERGENCY STOP button (1).

#### <u>Ascent</u>

Lightly press the UP button (2) and press down after a short period.

Ascent only as long as the **UP** button (2) is pressed.

Ascent stops at the latest when the rope weight moves against the pivot arm.



#### <u>Descent</u>

Lightly press the **DOWN** button (3) and press down after a short period.

Descent only as long as the **DOWN** button (3) is pressed.

Descent stops at the latest when the load is placed on the ground (rope slackens).

If the pivot arm hoist should be operated from above, then it is possible by plugging in manual controls with long cables of 30 m [98 ft] or 50 m [164 ft] (accessories).



#### WARNING Danger to life

Always keep the suspended load under constant observation from the operating position.

# 6.3 Emergency shutdown

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

There is an **EMERGENCY STOP** button on the manual control



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).

#### 6.4 Interrupting work – end of work

- > Move the load down and place on the ground.
- ➢ Remove the manual control and keep under lock and key.
- Disconnect the mains plug.

# 7 Dismantling (disassembly)

# For disassembly, the same regulations and safety instructions are applicable as described in Chapter 5.

Disassembly is generally carried out in reverse order to installation; in addition, also observe:

- Cordon off danger zone and attach warning notices.
- First remove fall protection and close the three-part side protection of the scaffolding.

# 8 Maintenance - Checking - Cleaning

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#### WARNING

The entire manual and operating manual must be read for all maintenance / servicing tasks.

It is not permitted to carry out tasks if the type and scope of the tasks are unclear, or the resulting hazards and actions to be initiated to avert hazards are unclear. All unclear issues must be resolved before starting work. All safety instructions must be complied with.

**Workshop equipment** that is suitable for the specific work is imperative for carrying out **servicing and maintenance tasks**. When carrying out maintenance tasks at greater height, fall protection must be worn! Keep all handles, railings and the ground free from dirt and contamination.

### 8.1 Inspections

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#### Inspections before commissioning, recurring inspections and intermediate inspections must be carried out according to national regulations.

During the checks, the condition, presence and function of all safetyrelated features of the machine are checked using appropriate procedures. Appropriate procedures are:

- Visual inspections
- Function and efficacy checks
- · Checks using measurement and test equipment

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

Type of test	Inspection procedures
Check by a trained person	Basic visual inspection and function check
	with few test steps and simple evaluation
Check by a competent person	Reoccurring inspections
	Checking due to special events, e.g.
	- Assembly
	- Maintenance
	- Natural phenomena
Checking by an accredited inspec- tion body (technical specialist)	Checking in accordance with national regula- tions

#### 8.1.1 Documenting the results

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

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

#### 8.1.2 Checks before initial commissioning

#### Checks at the factory

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

- Dynamic test with 1.1x useful load.
- Electrical tests according to EN 60204.
- Function tests.

#### 8.1.3 Checks after assembly / daily before starting operation

To guarantee safety when handling the machine, the person appointed by the operating company is obliged to carry out a daily inspection of certain machine areas / parts.

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

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

#### The following points must be checked daily

- Visual check before start of work
  - $\rightarrow$  refer to Chapter "Operation"
- Clean the drum guard (rope drum) (keep free from snow and ice in winter).
- Keep the work area around the machine clear and clean.

#### For checks after each installation $\rightarrow$ refer to Chapter "Assembly"

#### 8.1.4 Recurring inspections

Recurring checks must be carried out in accordance with national regulations.

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

#### 8.1.5 Checks after extreme weather conditions

#### Special test after temperatures of -30 °C [-22 °F]

#### NOTE:

If it is unclear if the temperature was less than -30 °C [-22 °F], follow procedures as if this temperature had been reached when starting up the machine again. Before carrying out the special test, temperatures must be above -20 °C (-4 °F) for a minimum of 3 hours.

- Clear ice and snow from the hoist.
- Press and release the EMERGENCY STOP buttons.
- Check the safety catch on the load hook.
- > Check all limit switches are moving freely.

#### DANGER:

Immediately notify your supervisor if any cracks or loose parts / loose screws are discernible. Clarify further procedure with your superior. Safety inspection of the hoist by a competent person. The safety inspection which checks for discernible cracks / loose parts / loose screws must also include inspection of the pivot arm.

Operation is prohibited until safe conditions have successfully been restored.

Carr out a test run without load and check the slack rope switch and overload protection (also refer to Chapter 5.5).

#### Special check after sand storm

Damage to the hoist due to blockage of the ventilation apertures.

> Clean ventilation slots, ventilation ducts and fan impeller.

# 8.2 Maintenance schedule

The inspections to be carried out on a daily basis before the start of operation are not included in the maintenance schedule. These are described in the operating manual as these checks are usually carried out by the operating personnel.

The maintenance intervals given relate to one-shift operation (40 hours / week). The intervals are to be modified according to any deviating operating times. The following inspections always include a check for proper function, wear, completeness and that there is no manipulation present.

#### Abbreviations used in the maintenance schedule

W = Week / M = Month / Y = Year

● = Visual check / ■ = Check	W	1 <b>M</b>	3M	1J
Electrical components				
Check the control lines and mains supply		•		
cable for signs of damage.				
Abrasion protection for cables			•	
Function check of the manual control				
Switching mechanism and limit switch				
Check / tighten the firmness of the con-				
tacts				
Check the overload setting				
Protective earth measurement in accord-				<b>∎</b> <sup>1</sup>
ance with EN 60204, Part 1				
Insulation measurement in accordance				∎ <sup>1</sup>
with EN 60204, Part 1				
Switch compartment (below the protecti	ve cov	er		
Soiling, moisture, scorched areas				•
Mechanical components				
Wire rope damage / wear				
Attachment devices (secure seating/tighten)				
Rope pulleys				
All covers available			•	
Motor brake				
Grease escaping / anomalies gearbox			•	
Information signs (present / legible)			•	
Fall protection				
Attachment / aperture width				

<sup>1</sup> = Maximum test intervals which could be significantly reduced depending on the location of use and national regulations.



#### WARNING

Supplement the maintenance plan with details regarding maintenance / servicing / operating materials / replacement / repair of component parts contained in the instructions provided by the suppliers.

# 8.3 Wear and Function Checks

#### 8.3.1 Motor / Motor brake

Carry out the maintenance and servicing tasks as follows.

#### Motor:

- Cleaning
- Check the ball bearing, replace as necessary (if conspicuous noises when operating)
- Replace the shaft seal (if grease escapes)
- Clear the cooling air passage

#### Motor brake:

- Measure the thickness of the brake lining, replace if necessary
- Measure operating clearance and adjust
- Armature disk
- Dog/interlocking

#### Test the braking distance:

- Load the non-twisting device via the load hook with 110 % of the permitted load capacity of the winch.
- Move up approx. 4 m [13 ft], subsequently move down. Stop the test load from a greater speed (2nd speed level) (press the EMERGENCY STOP button).

Overrun of the motor brake must not exceed 100 mm (4 in).

#### Adjust the motor brake

The working air gap is measured in the braking position between the anchor plate and the magnetic body. It increases due to wear. If the wear of the brake pad is advanced to the point where the maximum possible air gap of 0.5 mm is reached, the brake must be readjusted because safe brake release can no longer be guaranteed. This is evident by dwindling brake power or longer braking distance. The minimum thickness of the pad is 6.5 mm, and the working air gap should be set at 0.2 mm.



Coil 30 W / 105 V / approx.368  $\Omega$ 

Air gap (X) min. (adjusted)	0.2 mm
Air gap (X) max. (wear)	0.5 mm
Lining thickness min.	6.5 mm

#### Adjusting the air gap

- Switch off drive power supply.
- > Release the attachment screws and remove the protective cover.
- Pull dust protection ring out of the slot in the magnetic body and put over the end plate.
- > Use compressed air to remove output dust.
- Release the cheese-head bolts (1), the cheese-head bolts must be replaced with new bolts at the latest after every second adjustment.

Set the air gap by turning the adjustment units / banjo bolts (2).
Make sure that the adjustment is uniform at all points.

> Uniformly tighten the cheese-head bolts (1). Tightening torque = 5 Nm [3.68 lbf ft]

Using the feeler gauges, check the operating air gap of 0.2 - 0.3 mm [0.008 – 0.01 in] between the anchor plate and the magnetic body.

#### The working air gap must be the same size at every point, therefore the length must be checked at several points.

- > Check the adjustment units / banjo bolts (2) for secure seating.
- Place the dust protective ring into the groove in the magnetic body.
- Insert a new profile seal at the gearbox housing and install the protective cover.
- Carry out a function check.

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#### 8.3.2 Gearboxes

Minimum every three months

- > Check for operating noises for possible damage to bearings
- > Visual inspection for leakage from the seals

#### Grease for gearboxes

Recommendation	Filling capacity	Change
DIVINOL Lithogrease 0,	160 g [5.6 oz]	
ARAL-Lub FD 00,	for MINI 60 S	approx 2000 h
BP-Energrease HTO,	500 g [17.5 oz]	approx. 5000 n
ESSO-Fibrax 370	for MAXI 120 S/150 S	

Dispose of old lubricant in an environmentally-friendly manner.

#### 8.3.3 Checking / replacing the wire rope

Check the rope for signs of damage and wear (e.g. wire breaks, pinched points, looping of wires) and corrosion (refer to DIN 15020 Part 2), if necessary replace the rope.

In the event of wire breaks, the wire rope must be replaced at the latest after more than 8 wires are broken over a length of 135 mm [5.31"].

#### Replacing the wire rope

#### Disassembly from the rope drum

For better access to the rope drum when replacing the rope, remove the rope cylinder (5) on the flexible drum guard.



- > Unwind the wire rope (1) up to the last two coils.
- Loosen the cable clamp by loosening the central screw (4) in the main shaft.
- First pull the wire rope (1) out of the clamping position (3), then from the drum feed-through (2a) (push back the rope so that it relaxes).

#### Assembly on the rope drum

 First place the wire rope (1) through the drum feed-through (2a).



- Push through by approx. 1 m [3.3 ft) and place in the last two outer rope grooves (2b).
- Place the wire rope (1) in the hole at the clamping position (3) until it is visible from the opposite side (3a).
- > Use the central screw (4) and clamp the rope in the drive shaft.
- > Pull both loose rope coils (2b) fully tight.
- Install the rope cylinder (5).
- Coil the cable cleanly on the drum.

# CAUTION

Measure sufficient rope length, as the last two rope windings must always remain on the cable drum.

#### Replacing the rope weight

- Release the rope clamping screw (6a) and pull the wire rope (1) out of the hole on the side of the cable weight (6).
- Remove one screw (7a) on the non-twisting device (7) and fold it to the side.
- Push back the rope wedge (8).
- Lead the new rope in from above through the rope weight (6), make a loop, guide the rope end back and horizontally through the borehole.



# Do not allow the wire rope (1) to protrude at the circumference of the rope weight (6).

> Use the clamping screw (6a) to firmly clamp the end of the rope. (Allen key size 3).

- Place the rope wedge (8) into the loop and pull back the rope (1) in the centre until rope wedge (8) is secure.
- Flip back the non-twisting device (7) and again attach with the screw (7a).

#### 8.3.4 Non-twisting device with load hook

Check the non-twisting device with load hook for completeness, signs of cracks, deformation and corrosion.

• The load hook (9) must rotate easily.

NY The non-twisting device must be attached to the rope weight by bolts (7a). Replace bolts with spring fastenings (from earlier designs)!

- The rope wedge must be suitable for the rope diameter ( $\emptyset$  = 4.5 mm [0.17 in]).
- 7 = Non-twisting device



- The hook aperture security (9a) must automatically, easily and completely close.
- Attachment (rivet) of the security must not be damaged.

The load hook must not indicate any serious deformation in the hook aperture

- max. 10 % expansion.

b1

19 mm

0.74 in

h1

22 mm

0.86 in

**b2** 

15 mm

0.59 in

h2

19 mm

0.74 in

**d1** 

- max. 5 % wear.

a2

24 mm

0.94 in


## 8.3.5 Rope pulleys

#### **Calculating wear**

Wear is calculated using a calibrated vernier calliper.

Rope pulley Item No. 08176



Wear limit									
Normal dimension	Wear dimension								
9,5 mm	11 mm								
0.37 in	0.43 in								



In addition

- Check the rope pulley for scoring, cracks and flaking.
- Check the play and condition of the bearing.

#### 8.3.6 Check the support elements and attachment devices

Check the supporting elements, such as the tilting arm, triangular frame, pivot arm and pivot arm bracket for corrosion, cracks and damage.

Check the bolts of the attachment clamps on the triangular frame, pivot arm and pivot arm bracket for correct seating.

Pipe clamps 1  $\frac{1}{2}''$ Torque = **50 Nm [37 lbf ft]** width across flats (AF) = 22 mm

#### 8.3.7 Load carrying equipment

#### Checking intervals

Load carrying equipment must be checked by a competent person at intervals of no more than **one year** (refer to the national regulations).

#### Inspection after special incidents

Load carrying equipment must be subjected to a special check by a competent person after damage or special incidents that could impair the load capacity, as well as after repair.

The scope of the special check is determined according to the scope of damage, the incident or repair.

#### Inspection procedures

The check before initial commissioning and regular checks are significantly visual and function checks.

#### The following must be inspected

- The condition of the components and equipment.
- The intended assembly and use.
- The completeness and efficacy of the safety equipment.

# Test verification must be kept for all checks on load carrying equipment.

# 9 Malfunctions - Diagnosis – Repair

٨	WARNING
	Troubleshooting and fault rectification only to be carried out by persons specially trained and authorized for this. If possible, before troubleshooting lower the load to the ground! Immediately discontinue operation if faults occur that endanger opera- tional safety!



#### 

## Electric shock

Before working on the electrical system of the scaffolding lift, disconnect mains plug.

# 9.1 Fault table

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

Fault	Cause	Remedial action
Winch does not move	Mains plug disconnected	Connect the mains plug
	Mains fuse	Check mains fuse and re- place / switch on if necessary
	Control fuse	Check / correction (Refer to Chapter 9.2.2)
	EMERGENCY STOP button pressed	Unlock the EMERGENCY STOP button
	Slack rope switch operated	Tension the wire rope (Refer to Chapter 9.2.3)
	Overtemperature of the drive motor	Wait until the drive motor has cooled down and reduce the load
Motors do not gen- erate full power	Voltage drop of more than 10 %	Select a supply cable or ex- tension cable with a greater cross section (Refer to Chapter 9.2.1)
Winch only moves <b>DOWN</b>	Is the <b>UP/overload</b> limit switch functional	Check/replace the UP/overload limit switch
Tilting mechanism is folded up	Overload protection has trig- gered	Reduce the load
	Rope weight has moved against the pivot arm	Move downwards
Wire rope winds on one side of the rope drum	Vertical frame (scaffolding) not installed vertical	Use a spirit level to align the vertical frame (scaffolding)
	Winch not adjusted horizontal	Position the winch horizontal- ly (Refer to Chapter 9.2.4)

## 9.2 Fault rectification

#### 9.2.1 Motor is not producing full output

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

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

### 9.2.2 Control fuse

#### MINI 60 S

To access the control fuses, remove the motor cover.  $(3 \times \text{cap nuts width across flats AF 10 mm})$ 

1 × fuse (5×20) 230 V / T 250 mA 1 × fuse (5×20) 230 V / T 63 mA

#### MAXI 120S / 150 S

On the triangular frame of the winch.

1 x fuse (5x20) 230 V / T 2.0 A



#### 9.2.3 Slack rope switch operated

#### Cause

The flexible drum guard prevents the wire rope becoming loose on the rope drum when placing the load on the ground.

The flexible drum guard switches off the control in both directions.

#### Action:

Tension the wire rope (1) and position vertically.

The flexible drum guard is put into the operating position and the load can again be moved upwards.



## 9.2.4 Wire rope winds on one side

The rope must uniformly wind on the rope drum (each position of the rope). If the rope does not satisfactorily wind on, check to make sure that the vertical frame (scaffolding) is vertical and the inclination of the rope drum.

#### Check

- The vertical frame of the scaffolding, on which the scaffolding lift is installed, must be aligned vertically.
- The inclination of the rope drum must be adjusted.

The drive (rope drum) is set at the factory with an inclination of approx. 0.5°. If, however, the wire rope should not wind satisfactorily, this setting must be checked.

Place a spirit level on the top of the protective cover and check the horizontal position.

Horizontal top edge of the protective cover equates to approx. 0.5° inclination of the rope drum



## Changing the setting

Check the self-locking nut M12 (1) for correct seating (do not release).

- Release the three bolts M8 (2). (width across flats 13 mm)
- Use the spirit level and set the inclination of the drive (see above).
- Keep the drive in the position set and fully tighten the three bolts (2).
- > Check the rope winding.



#### 9.3 Repair

 $\triangle$ 

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

#### When ordering spare parts please provide the following:

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

The nameplate is located on the trolley of the base unit.



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

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

For the sales and customer service address, refer to Chapter 1.4

# **10** Disposal of the machine

Dismantle the equipment properly at the end of its service life and dispose of according to national provisions.

#### Observe the following when disposing of equipment components:

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

#### **Recommendation:**

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

# **11** Summary of instruction plates



# **12** Documenting the checks

Documentation for										
regular check in accordance with the maintenance schedule										
unplanned check after unu	isual events									
Name:	Serial number:									
Year of construction:	Works number:									
The machine was checked on	As a result									
Defects determined:										
Scope of inspection:										
Outstanding part checks:										
Outstanding part checks.										
Continued operation is:	Follow up inspection is									
	D not required									
	Cignoturo									
Place, date	Signature									
	(Technical specialist / competent person*)									
	*Name of competent person									
Stamp	Operating company: Address:									
Inspector	Operating company. Address.									
Operating company:										
Defects acknowledged:										
Defects acknowledged:										
Defects acknowledged:										

	Senai number.
ear of construction:	Works number:
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