

User's Manual

Chain hoist

64174, 64175



Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



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Introduction

Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it.

Keep these operation instructions in a safe place.

Safety instructions

- The device is used for vertically lifting and lowering loads up to the maximum load capacity. In combination with a trolley, loads can also be moved horizontally. The device may only be used in situation where the load capacity of the device and/or the supporting structure does not change with the position of the load. Every other use or any use exceeding this is considered as incorrect. We do not assume responsibility in case of consequential damages. Only the user bears all risks.
- When regularly lowering objects from large heights or under clogged operation, the device might overheat.
- The upper hook and load hook of the device must be in horizontal line with the load centre (S) when lifting; thus, you will avoid that the load swings during lifting.
- The user must make sure that the chain hoist is suspended so that operation is possible without the user's or any other person's being endangered by the chain hoist, its suspension, or the load.
- The user must not begin to move the load before this has been suspended correctly and all persons have left the danger zone.
- Nobody must stay or pass by under a load lifted.
- A load lifted or suspended must not be left without supervision; it must not be lifted or suspended during a longer period.
- The chain hoist may be used under ambient temperatures going from -10 to +50 °C. **Attention!** Before using the device under an ambient temperature below 0 °C, the brake must be controlled for freezing by lifting and lowering a small load twice or thrice.
- Never exceed the nominal load capacity of the device and/or the suspension and load-bearing structure.
- Do not use the device for pulling free, fixed loads. It is also forbidden to drop a load when the chain is slack. **Danger of the chain breaking!**
- It is forbidden to remove or cover stickers, warnings, or the name plate (e.g., with adhesive labels).
- When transporting a load, you must make sure that the load cannot swing or touch other objects.
- The load must not be moved to zones that the user cannot see. If necessary, the user must call someone for help.
- Using the device with a motor is forbidden.
- The device must not be operated with more than the force of one person.
- Welding operations performed at the hook and load chain are strictly forbidden. The load chain must never be used as earth connection when welding.
- Lateral pull, i.e., lateral stress exerted on the housing or lower block, is forbidden.
- The load chain must not be used as chain suspension.
- A device modified incorrectly must not be used.
- The chain hoist must not be used for transporting persons.
- The load chain must neither be knotted nor connected with the help of bolts, screwdrivers, etc. Load chains built in the chain hoist must not be repaired.
- It is forbidden to remove the safety locks of the upper hooks and/or load hooks.
- The load must be never attached to the tip of the hook. The load handling device must always be seated inside the arch of the hook.
- The chain stop must not be used as operation limiter.
- Reversing a load is forbidden under normal operation conditions; the lower block of the chain hoist is not designed for this purpose. If loads need to be reversed during normal operation, an anti-twist protection must be used or the producer asked.



- Only one load handling device must be suspended into the load hook of the chain hoist.
- Never reach for moving parts.
- Do not drop the device from large heights. Always put it to the ground correctly.
- The device must not be used in areas exposed to explosion hazards.

Mounting

Checking the attachment point

- The attachment point for the chain hoist must be chosen so that the load bearing construction that it shall be attached to has sufficient stability and that the forces expected can be absorbed safely.
- The device must be able to move freely even under load to avoid inadmissible additional loads.
- Choosing and calculating the appropriate substructure is the responsibility of the user.

Shortening or lengthening the hand chain

- Adjust the length of the hand chain so that the distance between its lower end and the floor is between 500 and 1000 mm. **Attention!** For safety reasons, the links of the hand chain must only be used once.
- Shorten or lengthen the chain to the appropriate length. **Attention!** Always remove or add an even number of chain links.
- Use a new link to close the loose ends of the chain by bending (for lengthening the hand chain, you require two new chain links).
Attention! Make sure that the hand chains cannot be twisted when mounting.

Checking before first use

- Before the first use, any re-use, or after major modifications, the device and its load-bearing structure require a check realised by a qualified person.
- The check comprises two essential parts, a visual and a functional. These checks are meant to make sure that the chain hoist is in a safe condition, fixed correctly, and operational and that potential faults or damages can be found and repaired.
- Before use, the function of the chain hoist unloaded must be checked.

Inspection before use

Before beginning to work with the device, the device itself, its suspension, the equipment, and the load-bearing structure must be checked for visual faults, e.g., distortions, superficial cracks, and traces of wear and corrosion. Furthermore, check the brake and verify if the chain hoist and load are correctly attached.

Checking the brake feature

- Before beginning to work with the device, always check the brake feature: For this purpose, use the device to lift, pull or tense, and lower or untighten a load over a small distance.
- When untightening the hand chain, the device must be able to hold the load in any position.
- This check is meant to make sure that the brake discs are not frozen even with temperatures below 0 °C. Repeat it at least twice before beginning to work normally.
Attention! In case the brake does not operate correctly, the device must be put out of service immediately.

Checking the attachment point

- The attachment point for the chain hoist must be chosen so that the load bearing construction that it shall be attached to has sufficient stability and that the forces expected can be absorbed safely.



- The device must be able to move freely even under load to avoid inadmissible additional loads.

Checking the load chain

Check if the load chain is sufficiently lubricated and check it for visual faults, e.g., distortions, superficial cracks, and signs of wear and corrosion.

Checking the chain stop

The chain stop must always be attached to the loose end of the chain. There must be no wear and tear and no wrong alignment.

Checking the upper hook and load hook

Check the upper hook and load hook for cracks, distortions, damages, and signs of wear and corrosion. The safety lock must be able to move freely and be fully operational.

Checking the reeving in the lower block

- All devices with two or more parts of chain must be checked for twisting or kinking of the load chain before the first use. To give you an example, the chains of chain hoists with two or more parts of chain might twist if the lower block flips over.
- When replacing the chain, make sure that it is reeved correctly. The welding seam of the chain must be directed outwards.
- Only mount a load chain authorised by the manufacturer. Any disrespect of this prescription results in the immediate termination of warranty.

Checking the length of the hand chain

Adjust the length of the hand chain so that the distance between its lower end and the floor is between 500 and 1000 mm.

Operational check

Before use, check, if the chain drive unloaded is operational.

Operation

Installation, maintenance, and operation

- Any user performing the installation, the maintenance or independent operation of the chain hoist must be trained and qualified for doing so. The persons entitled to use the device must be appointed explicitly by the enterprise and be made familiar with all relevant safety instructions of the respective country.
- Repairs must only be performed by authorised workshops and with original spare parts.
- When pulling the hand chain clockwise, a load is lifted.
Attention! Depending on the type of the load borne, please note that the lifting height of a device with chain box might decrease.

Lowering the load

When pulling the hand chain counter-clockwise, a load is lowered.

Inspection, maintenance, and repair

According to the national and international accident prevention and safety regulations, chain hoists must be checked:

- in compliance with the risk assessment of the user,



- before the first use,
- before any re-use after placing out of operation,
- after major modifications,
- at least once a year by a qualified person.

Attention! The actual operation conditions (e.g., operation in a galvanising site) might stipulate shorter checking intervals.

- Any repair can only be performed by a qualified workshop and with original spare parts. The check (essentially consisting of a visual and functional test) must cover the completeness and functionality of all safety devices as well as the condition of the device, the suspension, equipment, and supporting structure with regard to damage, wear, corrosion, or other modifications.
- The initial commissioning and the recurring tests must be documented (e.g., in the factory certificate).
- If necessary, evidence of the results of the tests and corresponding repairs must be provided. If the chain hoist (from 1-t load capacity) is mounted on or in a trolley and the chain hoist is used to move a raised load in one or more directions, the system is considered a crane and further tests must be carried out as required.
- Paint damage should be touched up to avoid corrosion. All joints and sliding surfaces should be lightly lubricated. If the device is heavily soiled, it must be cleaned.
- After 10 years at the latest, the device must undergo a general overhaul. In particular, the dimensions of the load chain, load hook, and upper hook must be checked.

Attention! After replacing components, a check by a qualified person is mandatory!

Inspection of the load chain (according to DIN 685-5)

- Load chains must be checked for mechanical damage at regular intervals, but no later than after 50 hours of operation. Check the load chain for sufficient lubrication and for external defects, deformation, superficial cracks, and signs of wear and corrosion.
- Round steel chains must be replaced if the original nominal thickness d at the chain link with the greatest wear has been reduced by more than 10 % or if the chain has extended by 5 % over a part p_n or by 3 % over 11 parts ($11 \times p_n$).

Maintaining the load chain

- In most cases, wear and tear of the chain in the pivot points is due to insufficient maintenance of the chain. To ensure optimal lubrication of the link contact points, lubricate the chain at regular intervals appropriate to the application with a penetrating lubricant (e.g., gear oil).
- In environments where abrasive materials such as sand etc. are present, a dry lubricant, e.g., PTFE spray, should be used. Proper lubrication can increase the life span of the load chain by 20 to 30 times compared to an unmaintained chain.
- When lubricating the chain, make sure that the chain is not under load so that the oil can reach the contact points of the chain links that are at risk of wear. The parts of the chain links touching each other must always be covered with lubricant, otherwise increased wear of the chain will occur.
- It is not sufficient to lubricate the chains on the outside, as this does not guarantee that a lubricating film can build up at the contact points.
- If the lifting path of the chain remains the same, the switching range from lifting to lowering must be checked in particular.
- It is important to ensure that the load chain is lubricated along its entire length, including the part of the chain in the hoist housing.
- Dirty chains are cleaned with petroleum or a similar cleaning agent.
- Never heat the chain.
- When lubricating the chain, also check its wear.



Attention! Care must be taken to ensure that no lubricant can penetrate the brake housing. This can lead to brake failure.

Replacing the load chain

- In the event of visible damage or deformation, the load chain must be replaced with a new chain of the same dimensions and quality; it must be replaced at the latest when it has reached the decommissioning state. A load chain that is to be discarded may only be replaced by an authorised specialist workshop.
- Only load chains approved by the manufacturer may be installed. Failure to comply with this regulation will void the warranty with immediate effect.
Attention! The replacement of a load chain must be documented.

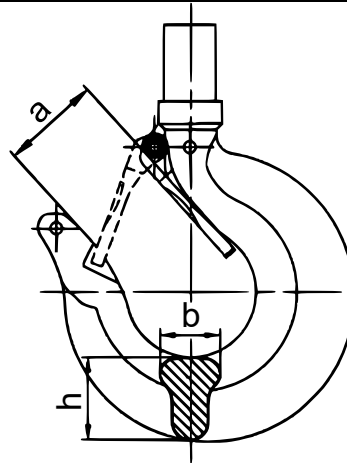
Chain hoist with single part of chain

- Run in the new chain only when it is not under load.
- An open load chain link is required as an aid. This can be obtained by using a grinding wheel to cut out a section from an existing link of the same dimensions. The length of the cut section must be at least the thickness of the link.
- Remove the load hook from the old load chain and hang the open load chain link in the loose end of the load chain.
- Also hang the new, lubricated load chain in the open link and pull it through the chain hoist (chain movement **lifting**).
- Do not put on a twisted chain. The welding seams must be directed outwards from the chain wheel.
- When the old load chain has run through the chain hoist, it can be removed together with the open chain link, and the load hook can be attached to the new load chain that has just been inserted.
- Attach the end of the idle part of the new load chain to the housing or frame (depending on version) of the chain hoist.

Chain hoist with more than one part of chain

Attention! Only pull in a new chain when the lower block is relieved, otherwise the lower block can fall down when you loose the load chain. **Risk of injuries!**

- An open load chain link is required as an aid. This can be obtained by using a grinding wheel to cut out a section from an existing link of the same dimensions. The length of the cut section must be at least the thickness of the link.
- Disconnect the loaded end of the load chain from the hoist housing or lower block (depending on version).
- Hook the prepared, open load chain link into the now free end of the load chain.
- Also hang the new, lubricated load chain in the open link and pull it through the lower block and chain hoist (chain movement **lifting**).
- Do not put on a twisted chain. The welding seams of the chain must be directed outwards.
- When the old load chain has run through the chain hoist, it can be removed together with the open chain link.
- Attach the loaded end of the new load chain to the hoist housing/frame or lower block (depending on version).
- Attach the loose end of the idler chain to the hoist in place of the old load chain.
Attention! The loose end of the idler must always be attached to the chain stop (see illustration).



Inspecting the load hook and top hook

The hook must be checked as required, but at least once a year, for deformation, damage, superficial cracks, and signs of wear and corrosion. The actual operating conditions might stipulate shorter inspection intervals. Hooks that do not meet all requirements must be replaced immediately. Welding on hooks, e.g., to compensate for wear and tear or damage, is not permitted. The top hooks and/or load hooks must be replaced if the hook jaw has opened more than 10 % or if the nominal dimensions have reduced by 5 % due to wear. The nominal dimensions are given in the table below.

Load capacity (kg)	Size (mm)		
	<i>a</i>	<i>b</i>	<i>h</i>
250	19.5	11	16
500	25	15	19

Storage

Observe the following information when storing the device or temporarily decommissioning it:

- Store the device in a dry and clean spot.
- Protect the device, including all accessories, from dirt, moisture, and damage with a suitable cover.
- Protect the hooks from corrosion.
- A light film of lubricant should be applied to the chains.
- As the brake discs can freeze at temperatures below 0 °C, the device should be stored with the brakes closed. To do this, turn the hand chain wheel clockwise while holding the load shedding.
- If the device is to be used again after decommissioning, it must first be checked again by a qualified person.

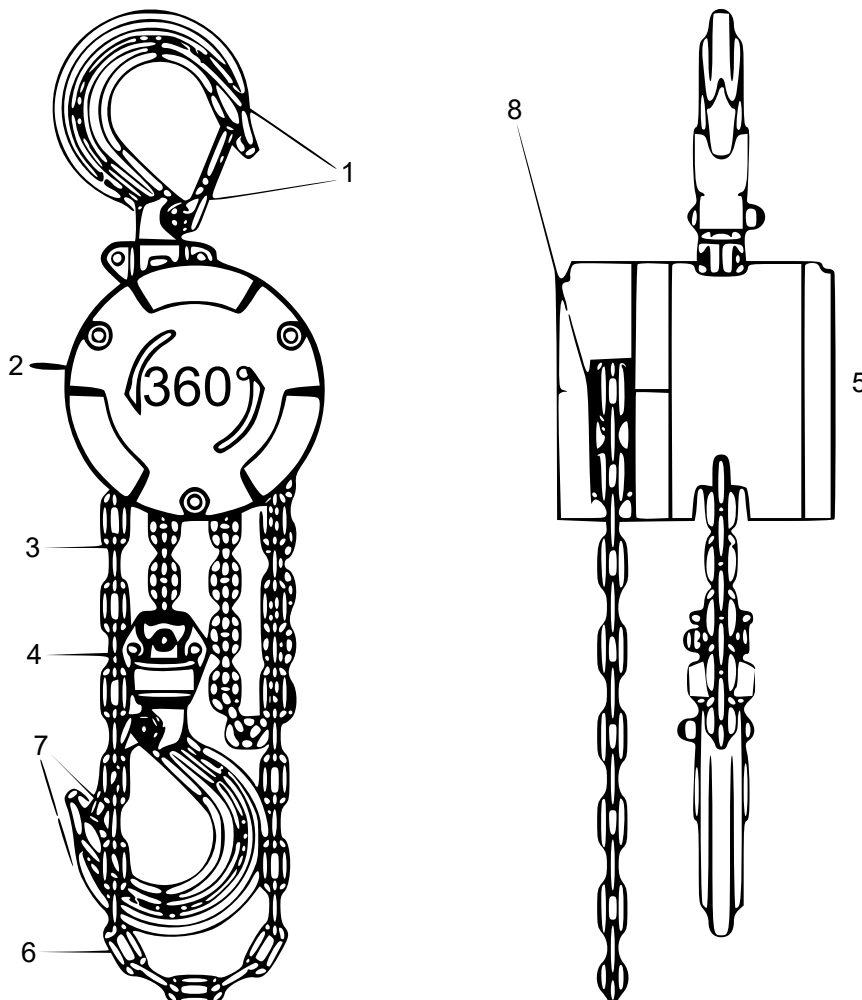
Disposal

After decommissioning, recycle or dispose of the parts of the device in accordance with the legal regulations.

Technical specifications

Item number	64174	64175
Load capacity (kg)	250	500
Number of parts of chain	1	1
Chain dimensions (mm)	ø3.2x9	ø4.3x12
Min. clearance (mm)	240	270
Hand pull at nominal load (N)	147	187

Parts



No	Name	No	Name
1	Top hook with safety lock	5	Gear cover
2	Hand wheel cover	6	Hand chain
3	Load chain	7	Lower hook with safety lock
4	Lower hook housing	8	Hand wheel

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