

# Operating instructions

## Lever Hoist Type RZ



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## 1. Introduction

The lever hoist type RZ is used for the vertical lifting and lowering, and pulling of loads.

Before you use the lever hoist type RZ for the first time, read the operating instructions in their entirety. The operating instructions explain how to safely use, maintain, inspect, and dispose of the lever hoist type RZ. These operating instructions are a component of the product and must be available to all users. Keep the operating instructions in a safe place for re-use. The lever hoist type RZ will be called the lever hoist below.

### 1.1 Manufacturer/Service

**Carl Stahl Hebetchnik GmbH**

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**INFO**

We will be happy to answer any questions you may have about your product.

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### 1.2 General terms and conditions

The general terms and conditions are available directly from the manufacturer or at:  
[www.carlstahl-hebetechnik.de/downloads/](http://www.carlstahl-hebetechnik.de/downloads/)

### 1.3 EU declaration of conformity

#### Content of the document:

For the product designated below

<b>Name:</b>	Lever hoist
<b>Type:</b>	RZ

we hereby declare that it corresponds to the **basic requirements** specified in the harmonization legislation named below:

DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of May 17, 2006 about machines and the change of Directive 95/16/EC (new version) – for short: **Machine directive**

Specification of the applicable harmonized standards that apply or details of the specifications for which conformity is declared:

Reference	Date of issue	Title
Harmonized standards for the machine directive:		
DIN EN ISO 12100 + Correction 1	2011-03 2013-08	Safety of machines – General principles for design – Risk assessment and risk reduction
DIN EN 13157	2010-07	Cranes - Safety - Hand powered cranes
DIN EN 818-7 + Correction 1	2008-07 2009-01	Short link chain for lifting purposes - Safety - Part 7: Fine tolerance chain for hoists, Grade T (Types T, DAT and DT)
Additional applicable technical specifications (not published in the EU official gazette):		
DIN ISO/TR 14121-2 DIN SPEC 33885	2013-02	Safety of machinery - Risk assessment - Part 2: Practical guidance and examples of methods

Authorized within the meaning of Annex II No. 1. A. No. 2, 2006/42/EC for the compilation of the technical documents:

Company	Carl Stahl Hebeteknik GmbH
Address	Tobelstr. 2 D-73079 Süßen

Sole responsibility for issuing this declaration of conformity with regard to meeting the basic requirements and the preparation of the technical documents is borne by the manufacturer (or installation company):

Company	Carl Stahl Hebeteknik GmbH
Address	Tobelstr. 2 D-73079 Süßen

Declared by:

Last name, first name	Schwenger, Wolfgang
Title	Managing director

This declaration certifies conformity with the named harmonization legislation, however it does not promise properties.

#### Additional details:

This declaration applies to all copies that are manufactured according to the corresponding production drawings, which are a component of the technical documents. The attached accompanying documentation that supports the declaration of conformity contains additional details about adherence to above references.

The complete declaration of conformity is attached as a separate document.

## 2. Preparation of information

These operating instructions contain symbols, designations, instructions, and lists as depicted in Chapters 2.1 to 2.2.

### 2.1 Symbols and designations

#### Warnings

The warnings are classified and depicted as follows:



#### **DANGER**

A warning with the signal word “DANGER” indicates a hazard that can immediately and certainly cause death or severe, lasting injuries.



#### **WARNING**

A warning with the signal word “WARNING” indicates a hazard that may cause severe injuries or death.



#### **CAUTION**

A warning with the signal word “CAUTION” indicates a hazard that may cause minor to moderate injuries.

#### **ATTENTION**

A warning with the signal word “ATTENTION” indicates a hazard that may cause property damage.

In a **warning**, steps are marked with ► and structured chronologically.

#### Pictographs for specific hazards



#### **Meaning:**

Warning about suspended load.



#### **Meaning:**

Warning about danger of crushing.



#### **Meaning:**

Warning about hand injuries.

The pictographs are used in connection with the associated classification and the appropriate signal word.

## Useful information and tips



### INFO

This symbol identifies useful information and tips.

## Disposal



### NOTICE ABOUT DISPOSAL

of packaging materials and load lifting devices.

## 2.2 Instructions and lists

All instructions are structured in chronological order and numbered sequentially, e.g.:

1. Step 1
2. Step 2

The result of an action is marked with an arrow:

- Result or device reaction

Instructions that do not have to be carried out in a particular sequence are marked as follows:

- Step
- Step

The result of an action is marked with an arrow:


- Result or device reaction

Lists are marked with dashes:

- List

### 3. Safety

Before you use the lever hoist, carefully read the following safety instructions.

Chapters 3.1 to 3.3 list basic behavior rules that you must observe when handling the lever hoist. You must absolutely follow the instructions that are marked with a  symbol to prevent danger to people. Warnings that belong to the individual instructions are always listed before the step in question.

#### 3.1 Basic safety instructions

The lever hoist has been constructed, tested, and left the company in a perfectly safe condition. In order to maintain this state, you must follow the instructions in these operating instructions.

- Read these operating instructions in their entirety;
- Heed the warnings and safety instructions;
- Make sure that these operating instructions are always available where the hoist will be used;
- Make sure that only suitable specialized personnel perform work with and on the lever hoist (see Tab. 1);
- During use, comply with the locally-applicable requirements for occupational safety and the work instructions of the operator;
- Consider the circumstances on-site;
- Comply with the maximum load capacity;
- Consider the tare weight of the lever hoist, the tare weight must be added to the load:  
**Tare weight lever hoist + weight of load = total weight ► Consider the weight of all components with regard to the maximum load capacity!**
- You must immediately repair damage that compromises safety;
- Perform all work with great care;
- Never open the lever hoist when it is under load;
- Only use the lever hoist if the nameplate is easily legible;
- When using the lever hoist in combination with a sling/load lifting attachment, heed the operating instructions for the sling/load lifting attachment;
- Use only suitable slings/load lifting attachments, take special care that the load capacity of the sling/load lifting attachment fulfills the requirements;
- Make sure that your lever hoist chain is not twisted;

### Classification of the qualification areas for standard lifting devices

Area of activity	Qualification	Professional knowledge
Delivery and transport	Dealer, mover	<ul style="list-style-type: none"> <li>– Proof of standard lifting device training</li> <li>– Safe handling of standard lifting devices</li> </ul>
Storage	Storage specialist	<ul style="list-style-type: none"> <li>– Safe handling of standard lifting devices</li> </ul>
Start-up, maintenance, and service	Specialized personnel	<ul style="list-style-type: none"> <li>– Expert: professional training and experience, sufficient knowledge in the area of standard lifting devices</li> <li>– Safe handling of standard lifting devices</li> <li>– Product-specific knowledge</li> </ul>
Use, simple visual inspection	Specialized personnel	<ul style="list-style-type: none"> <li>– Safe handling of standard lifting devices, professional training and experience</li> </ul>
Disposal	Specialized personnel	<ul style="list-style-type: none"> <li>– Knowledge of the regulations for proper disposal and re-use</li> </ul>

Tab. 1. Overview

## 3.2 Proper use

The following points comprise proper use:

- Vertical lifting and lowering of non-guided loads;
- Pulling and tensioning of loads
- Observe the permissible load capacity: **Tare weight of the individual components + load weight;**
- Temperature range from -10 °C to + 50 °C;
- Even distribution of the load;

In addition to the points listed here, additional details must be taken from the technical data and observed (Chapter 4).

## 3.3 Improper use

The following points comprise improper use:

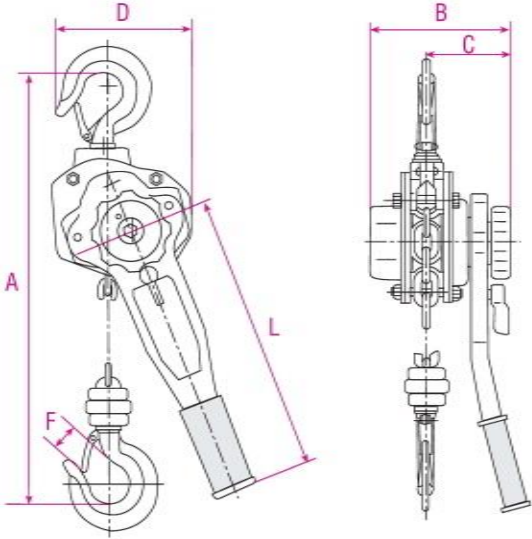
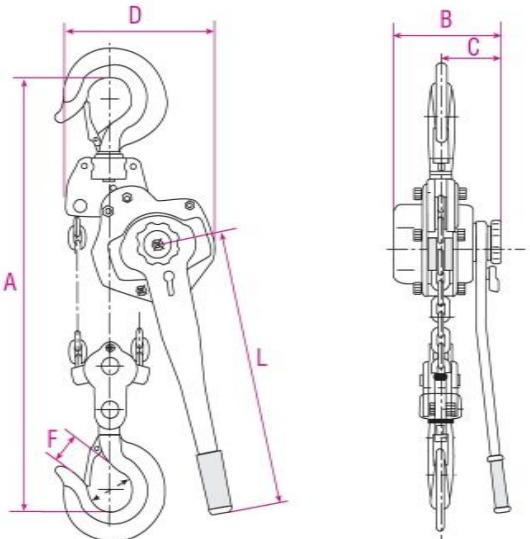
- Exceeding the maximum load capacity;
- Conveying people and animals;
- Transporting fluids and hazardous materials;
- Breaking free stuck loads;
- Changes to the construction;
- If people linger under suspended load;
- In environments that are subject to explosion, or where there is exposure to salt, acid, toxic, and/or alkaline substances;

Chapter 3.3 does not guarantee completeness. Anything that is not expressly permitted falls under improper use.

## 4. Technical data

<b>Name:</b>	Lever hoist
<b>Type:</b>	RZ
<b>Model:</b>	RZ 75, RZ 150, RZ 200, RZ 300, RZ 600
<b>Chain type</b>	Round steel chain according to DIN EN 818-7

General information	RZ 75	RZ 150	RZ 200	RZ 300	RZ 600
Load capacity	750 kg	1500 kg	2000 kg	3000 kg	6000 kg
Expenditure of energy with rated load	210 daN	240 daN	300 daN	320 daN	340 daN
Number of chain strands	1	1	1	1	2
Weight with normal lift	7.5 kg	11.5 kg	12.7 kg	21.0 kg	31.5 kg
Standard lift height	1.5m	1.5m	1.5m	1.5m	1.5m
Temperature range for storage and use	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C

Dimensions					
RZ 75, RZ 150, RZ 200, RZ 300			RZ 600		
					

	RZ 75	RZ 150	RZ 200	RZ 300	RZ 600
Dimension in	mm	mm	mm	mm	mm
A	320	360	365	470	565
W	156	176	176	202	202
C	94	103	103	112	112
D	132	162	162	185	230
H min.	38	42	45	50	65
F	26	32	34	34	34
L	280	410	410	410	410

Tab. 2. Technical data

## 5. Delivery and transport

### 5.1 Scope of delivery

Check the delivery to ensure it is complete.

Pieces	Item	Type	Order no.
1	Lever hoist	RZ 75 or; RZ 150 or; RZ 200 or; RZ 300 or; RZ 600	15201000015038 15201000015039 15201000015040 15201000015041 15201000015042
1	Original operating instructions	-	-
1	Declaration of conformity	-	-

Tab. 3. Scope of delivery

If parts are missing or damaged, contact the manufacturer/dealer (Chapter 1.1).

### 5.2 Transport

Delivery is made in appropriate packaging.

Always transport the lever hoist in suitable packaging.

### 5.3 Storage

#### ATTENTION

#### Damage to device due to improper storage!

Improper storage can damage the lever hoist.

- ▶ Store the lever hoist in a suitable place.
- ▶ Store the lever hoist in a clean, dry place indoors.
- ▶ Protect the lever hoist against:
  - The effects of temperatures that fall below or exceed the permissible temperature range (see Chapter 4).
  - Humidity
  - Soiling
  - Damage
  - Corrosion

## 6. Structure and function

The lever hoist consists essentially of the following components:



Fig. 1. Structure

Position	Name
1	Carrying hook with safety catch
2	Housing
3	Load chain
4	Hook block
5	Load hook with safety catch
6	Hand wheel
7	Control lever
8	Hand lever

Tab. 4. Structure and function

## 7. Use

### 7.1 Inspection before use

An inspection must be conducted before each use. You must conduct an inspection before first use (initial start-up), before each recurring use or after each servicing.

The inspection is intended to ensure that the lever hoist is in perfect condition and ready for operation.

For the precise details of the corresponding inspections, see the maintenance/inspection plan. Read Chapter 8, especially 8.2 - 8.4.

Before you use the lever hoist, you must observe the following:



#### **DANGER**

##### **Danger to life due to falling load!**

A falling load can cause severe injuries or death.

- ▶ Never linger under a suspended load.
  - ▶ Never pass under a suspended load.
  - ▶ Ensure there is sufficient free space to work.
  - ▶ Ensure that there are no people in the working area.
- 



#### **WARNING**

##### **Danger of crushing due to lack of space!**

There is a danger of crushing due to clearances that are too small at the load pick-up point, on the load transport path or at the load drop-off point.

- ▶ Inspect your work environment.
  - ▶ Ensure there is sufficient space at the load pick-up point, on the load transport path, and at the load drop-off point.
-

## 7.2 Chain unlocking mechanism

Place control lever (Fig. 1 – Pos.7) in the neutral position. The chain can be pulled in both directions and the load chain can be quickly pre-tensioned.



The braking system works automatically if the load on the load carrier is greater than 30 kg for load capacities up to 1000 kg and more than 3% of the load capacity for devices over 1000 kg.

## 7.3 Lifting the load

Turn the control lever in the direction lift “↑” and let it snap in (Fig. 1). Make pumping motions with the hand lever. If the lift is under load, but no work is performed with it, the control lever must remain in the lift “↑” position.

## 7.4 Lowering the load

Turn the control lever in the direction lower “↓” and let it snap in (Fig. 1). Make pumping motions with the hand lever.

## 7.5 Tensioning the brake

If a lever hoist under load is suddenly unburdened by removing the load or demolition work and lowering has not been previously initiated, the brake remains closed. The brake also closes if the load hook with the hook block is pulled too firmly against the housing.

## 7.6 Releasing the tensioned brake

Turn the control lever in the direction lower “↓” and push the hand lever through abruptly. If the tension is very high, the brake can be released with a sudden load on the hand lever.

## 8. Servicing

A standard lever hoist must be cleaned, maintained, and inspected regularly. For the maintenance/inspection intervals, see the maintenance/inspection plan.

### 8.1 Cleaning



#### INFO

Regular cleaning and careful handling mean that the lever hoist will be in good condition throughout its life cycle.

Component	Cleaning criteria	Actions
Carrying hook	The carrying hook must be movable, and free of dust and dirt.	Clean
Housing	The housing must be free of dust and dirt.	Clean
Hand lever	The hand lever must move easily, be free of dust and dirt.	Clean
Hand wheel	The hand wheel must move easily, be free of dust and dirt.	Clean
Control lever	The control lever must move easily, be free of dust and dirt.	Clean
Load chain	The load chain must be movable, free of dust and dirt.	Clean and lubricate with oil
Hook block	The hook block must be movable, free of dust and dirt.	Clean
Load hook	The clamping jaws must be free of oil/grease, dust and dirt.	Clean
Nameplate	The nameplate must be free of dirt and legible.	Clean

Tab. 5. *Cleaning*

## 8.2 Maintenance/inspection plan

Maintenance/inspection interval	Activity
Before first use (initial start-up)	<ul style="list-style-type: none"> <li>– Visual inspection and function check</li> <li>– Function check of brake</li> </ul>
Before each recurring use of the lever hoist without extraordinary events	<ul style="list-style-type: none"> <li>– Visual inspection</li> <li>– Function check of brake</li> </ul>
Annually	<ul style="list-style-type: none"> <li>– Visual inspection and function check</li> </ul>
Extraordinary inspection	<ul style="list-style-type: none"> <li>– Depending on external conditions, the <b>annual</b> inspection cycle may be shortened. This includes the following points: <ul style="list-style-type: none"> <li>– After damage events, servicing or special incidents,</li> <li>– Permanent use in shift operation,</li> <li>– Increased wear,</li> <li>– Corrosion, effects of heat due to environmental influences,</li> <li>– etc.</li> </ul> </li> </ul>

Tab. 6. Maintenance/inspection plan

## 8.3 Inspection criteria

The discard criteria for the lever hoist are determined by using the inspection criteria in the following table.

Component	Inspection criteria	Actions
Brake	Check brake function	Take out of service and contact manufacturer/service
Carrying hook	Any type of deformation and wear	Take out of service and contact manufacturer/service
Housing	Any type of deformation and wear	Take out of service and contact manufacturer/service
Hand lever	Any type of deformation and wear	Take out of service and contact manufacturer/service
Hand wheel	Any type of deformation and wear	Take out of service and contact manufacturer/service
Control lever	Any type of deformation and wear	Take out of service and contact manufacturer/service
Load chain	Any type of deformation and wear	Take out of service and contact manufacturer/service
Hook block	Any type of deformation and wear	Take out of service and contact manufacturer/service
Load hook	Any type of deformation and wear	Take out of service and contact manufacturer/service
Nameplate	Legibility	Take out of service and contact manufacturer/service

Tab. 7. Inspection criteria

## 8.4 Visual inspection and function check

The lever hoist must be checked and inspected before each use. The tables on page 13 list criteria which may indicate that you must take the lever hoist out of service.



### **DANGER**

#### **Danger to life due to falling load!**

Due to deformation and wear of the individual components, the load capacity may be reduced and the load can fall.

- ▶ Check the lever hoist for defects.
- ▶ Check to what extent the individual components are functional.
- ▶ Take the lever hoist out of service by marking it appropriately, if it is no longer functional and is irreparably damaged (see Chapter 9.1).
- ▶ If necessary, contact the manufacturer/service (see Chapter 1.1).
- ▶ If necessary, dispose of the lever hoist (see Chapter 9.2.)

### **Visual inspection**

1. Check the lever hoist for visual defects such as:

- Cracks,
- Deformation,
- Wear,
- Completeness,
- Expansion and lengthening of the chain links.

2. Take the lever hoist out of service if it is damaged.

### **General function check**

1. Check all moving parts to ensure they move easily.
2. Check the functionality of the lever hoist.
3. Take the lever hoist out of service, if its function is compromised.

### **Function check of brake**

1. Before beginning work, make sure to check the function of the brake.
  - To do this, lift a load with the device over a short distance, pull it or tension it, and then lower it or unload it. When releasing the hand lever, the load must be held in any position.
2. This check should ensure that the brake disks are not frozen even at temperatures below 0 °C. It must be repeated at least twice before additional work is begun.
3. If the brake malfunctions, the device must be taken out of service immediately and the manufacturer contacted!

## 9. Taking out of service and disposal

### 9.1 Taking out of service

1. Take the lever hoist out of service by marking it.
2. Contact the manufacturer/service (see Chapter 1.1).
3. If necessary, dispose of the lever hoist.

### 9.2 Disposal

#### Disposal of lever hoist

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**NOTICE ABOUT DISPOSAL**

If the lever hoist can no longer be repaired or if it is no longer functional, it must be disposed of in accordance with the applicable legal provisions.

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#### Disposal of packaging material

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**NOTICE ABOUT DISPOSAL**

According to the Packaging Ordinance, the dealer must take back for re-use and/or ensure disposal of the packaging for its products that do not bear the symbol of a system for complete disposal (such as the Green Dot of the Duales System Deutschland AG).

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