Operating and Maintenance Manual

for

HADEF locking device for monorail trolleys
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1 General Information

Dear customer,

You have made your choice for a high-quality HADEF product. It fulfills the requirements of the EU, and in particular the EU Machine Directives (98/37/EG).

Our entire company works according to a certified quality assurance system as per EN ISO 9001:2000

In order to ensure flawless and trouble-free functioning of the crane, it is necessary that you read these operating instructions thoroughly and fully before the initial start-up and commissioning.

These operating instructions help you to put the cranes into operation with due regard to the relevant regulations. They include information to be followed concerning set-up, commissioning, operation, use and maintenance and thus ensure that the cranes can be operated safely and stay in good condition.

Production of the individual components is subject to constant strict intermediate inspections by HADEF. Each HADEF product is subject to a final inspection before leaving our factory.

Trolleys are suitable for use in area not at risk of explosion.

We wish to refer to the stipulated tests and checks for the cranes before initial start-up and commissioning, before starting up again after a period of disuse, and the routine scheduled checks. In other countries the national regulations applicable there should also be taken into consideration.

The stated performance of the cranes and meeting any claims made under warranty require that you comply with all the details given in these instructions.

HADEF products are checked before dispatch; incorporated hoists are suitably packed before being shipped out (if applicable). For that reason we request you to check the goods for damage in transport on receiving them and to make any complaints at once to the transport company.

Subject to changes. © HADEF
2 Product description

2.1 Appropriate use

The locking device is used to lock trolleys on the beam. They are suitable to be used for push travel and hand geared trolleys.

Never exceed the rated capacity of the device which is marked on the unit. Exception is during the load test before first commissioning made by an expert acc. to the accident prevention regulations (German UVV BGV D6).

⚠️ Do not transport people with the units.

Do not suspend loads from the units.

People must not stand under suspended loads.

It is not permitted to use standard units in areas with risk of explosion! Special models can be offered for this purpose. Please contact HADEF in such a case.

Make sure that the ambient temperature does not fall short of – 20 °C or exceeds + 50 °C.

The owner may only trust the setting-up, maintenance and independent operation of the units to persons who have been suitably trained and can be trusted to work properly!

Do not make any changes or alterations to HADEF units. Anything added on must not affect proper safety and functionning!

Any damage or defects must be reported immediately to a responsible superior. Do not use the units until the damage or deficiency has been corrected!

All liability and warranties are null and void if the user makes unauthorised changes to the units on his own initiative!

If the units are not used appropriately, it is not possible to ensure safe operation. The owner and operator have sole liability for all personal injury and damage to property arising from inappropriate use.
3   Design

HADEF locking devices can be assembled with monorail push travel trolleys Type 19/90 or hand geared trolleys Type 22/90. The locking devices are – as standard – available for capacities from 500 up to 6300 kg.

3.1   Functions

The locking device assembled to a trolley locks the trolley in its position on the beam.

3.2   Areas of application

The locking devices are design for indoor use. Should they be used outdoors, please protect them by a cover.

3.3   Technical Data

<table>
<thead>
<tr>
<th>Trolley capacity kg</th>
<th>Beam profile</th>
<th>Dimensions mm</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>500 - 6300</td>
<td>I</td>
<td>100</td>
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<td></td>
<td>IPE</td>
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<td></td>
<td>IPBI</td>
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<td>IPB</td>
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<tr>
<td></td>
<td>IPBv</td>
<td>100</td>
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<tr>
<td>500 - 6300</td>
<td>I</td>
<td>475</td>
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<td></td>
<td>IPE</td>
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<td>IPBI</td>
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<td>IPB</td>
<td>180</td>
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<tr>
<td></td>
<td>IPBv</td>
<td>160</td>
</tr>
<tr>
<td>500 - 6300</td>
<td>IPBI</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>IPB</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>IPBv</td>
<td>240</td>
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</tbody>
</table>

Subject to changes.

4   Important Components

4.1   Jaws

The two jaws are made from one piece.

4.2   Hand chain wheel

Made from steel plate with hub.

4.3   Spindle

The spindle is ,with the hand chain wheel, tuned open or close so that the jaws lock for the different capacities.
5 General Safety Instructions

Requirement for due care by the user

The unit was designed and constructed with regard to a risk analysis and after a careful check of the harmonized standards to be complied with and also a number of additional technical specifications. It therefore complies with current state of technology and ensures a maximum degree of safety.

This safety can only be attained in operational use if all necessary measures have been complied with. The user/owner of the unit is required to show due care in planning these measures and checking that they are carried out.

The owner must ensure in particular that

- The unit is only used appropriately (see also the Product Description section)
- The unit is only to be used when it is in a flawless and fully functional condition, and in particular, the safety devices must be regularly checked to see that they function properly
- The necessary personal protective equipment for operation, maintenance and repair personnel is always available and used
- The operating instructions are always kept in full and in a legible condition at the place of use of the equipment
- Only qualified and authorised personnel may operate, maintain and repair the unit
- The personnel are regularly instructed in all relevant matters concerning the safety of work and the protection of the environment and also must be familiar with the operating instructions, in particular with the safety instructions given in them
- If applicable, any safety and warning information applied to the unit may not be removed and also must remain legible

Design changes to the unit may only be carried out with the prior written approval of the manufacturer!

6 Explanation of the safety symbols used

The following safety symbols are used in these operating instructions. These symbols are intended to bring the adjacent safety information given in the text to the attention of the reader.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>!</td>
<td>ATTENTION</td>
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<td>!</td>
<td>ATTENTION</td>
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<td>!</td>
<td>NOTICE</td>
</tr>
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<td>!</td>
<td>PROHIBITION</td>
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<td>!</td>
<td>INFORMATION</td>
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<td>INFORMATION</td>
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<td>INFORMATION</td>
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6.1 Basic safety information

The units are solely to be used to lock trolleys. Under no circumstance may persons be carried. In any case ensure that nobody stands unnecessarily under the suspended load. We wish to refer to the relevant stipulations of the accident prevention regulations (German UVV) and to the relevant national regulations that apply outside of Germany.

Ensure that the building walls, ceilings or other structures to which the units are built on, suspended or installed have an adequate stability before installing and first using the units to ensure that the unit can carry any possible load and also its dead weight with safety. If there is any doubt, consult a structural engineer!

The units may only be used appropriately with due regard for the relevant national regulations in force and according to the information given in the operating instructions. See also the Product Description section.

After long periods of disuse, check all the functional-important parts such as wheels, load bars, screws, chains, load hooks a.s.o. before using a unit again by means of visual check and replace any damaged parts against new original HADEF spare parts!

Do not make any changes or alterations to HADEF units. Anything added on must not affect proper safety and functioning!

Any damage or defects must be reported immediately to a responsible superior. Do not use the units until the damage or deficiency has been corrected!

If the unit is put into motion, any persons in the immediate vicinity must be informed of the fact by calling to them!

Never load the units beyond the stipulated permissible maximum loading capacity!

The units may only be used appropriately with due regard to the relevant national regulations in force and according to the information given in the operating instructions. See also the Product Description section.

7 Requirements for the operating personnel

Only entrust suitable persons who have been appropriately trained to use the equipment independently. They must be authorised by the owner to use the equipment. The owner must ensure that the operating instructions are available and easily accessible for the operating personnel.

8 Transport and Storage

8.1 Transport

HADEF units are checked and properly packed before delivery. They are not to be thrown or dropped. Please use suitable means of transport. The transport and means of transport should depend on the local circumstances.

Transport work should only be done by suitable qualified persons with due regard to the appropriate safety information.
8.2 Storage

If the unit is not put into operation immediately or if there are longer breaks in operation, ensure that it is stored in a clean place and protect the unit against dirt, damp and damage by using suitable coverings. Prevent the chains, hook and brakes from being attacked through damage by corrosion.

9 Installation

In order to avoid damage or serious injury when setting up the unit, the following points must be complied with without fail:

- The setting-up work – assembly and installation of the unit – may only be done by suitably qualified persons with due regard to the safety information.

- The unit is to be checked for damage of transport before starting the installation and assembly work.

- Also read the "General safety information" section.

9.1 Installation instructions

The locking device can be adjusted to different flange widths. Installation depends on the space available.

9.2 Installation on the beam

Assembling of the locking device to the trolley is done as follows:

1. Turn open the spindle (2) of the locking device using the hand wheel (3) – so that the jaws (1) separate.
2. Place the locking device on the beam in front of the trolley and push the jaws (1) together again with the spindle (2).
3. Push the plate (4) between the plates (5+6), adjust it and connect it with screw (7) and tighten the screw slightly.
4. Push the trolley to plate (4) of the locking device and weld the plate (4) to the side plate of the trolley.
5. Now, tighten screw (7).
10 Commissioning

The units are to be checked by a suitably qualified expert before the initial startup and commissioning.

If used in Germany: follow the accident prevention regulations and in particular the stipulations BGV D6.
If used in other countries: test and check as above, follow the relevant national regulations and the details given in these instructions.

10.1 Ambient influences

Should the unit be used outside it must be protected by a cover.
If the unit is used under extreme ambient conditions, the best protection against functional defects is to use the unit regularly and to shorten maintenance intervals.

10.2 Safety Check before initial start-up

Spindle
The spindle must be lubricated i.e. with Shell ALVANIA EP 2 or products of similar quality.

Hand chain wheel
Make sure the chain is placed correctly, it must not be twisted and must hang down freely.

11 Use and Operation

11.1 Use

It is essential to check the following points:

- Only entrust suitable persons who have been appropriately trained to use the equipment independently. They must be authorised by the owner to use the equipment. The owner must ensure that the operating instructions are available and easily accessible for the operating personnel.

- Locking
The jaws lock when pulling the right chain fall. The trolley is locked and cannot be moved any longer.

- Unlock
The jaws separate when pulling the left chain falls. The trolley can be moved again.

Subject to changes. © HADEF
11.2 Operation

The following important points should be noted when operating the units:

- Read the safety information!
- The units may never be loaded beyond the maximum permissible loading capacity!
- It is essential to comply with the stipulated maintenance intervals!

Do not stand under suspended loads!

12 Help with problems

In order to avoid damage or severe injuries when correcting problems with the unit, the following points must be followed:

- Only deal with a problem if you have the suitable qualification that is required for this.
- First of all prevent the unit from being switched on again by switching off the power supply and hanging up the control switch and hand chains or by putting up a warning note that the unit is not to be used.
- Secure the working area of the moving parts of the unit.
- Read also section "General safety information".

Please also contact our service section concerning troubleshooting. Problems due to wear or damage to components such as wheels, load bars, etc. are to be corrected by replacing the defective parts with original spare parts.
13 Servicing and Maintenance

13.1 General

All the test results and action taken are to be kept in writing!

- All monitoring, maintenance and servicing work is intended to secure safe operation of the units. The work is to be carried out with utmost care.
- The work must be carried out by suitably qualified personnel.
- The work must be carried out as far as possible when the unit is not under load.

13.2 Inspection and Maintenance

The stipulated inspection and maintenance intervals apply for normal conditions and single-shift operation. If the conditions of use are more severe (e.g., frequent operation under full load) or due to special environmental conditions (e.g., heat, dust, etc.) the intervals must be shortened suitably.

<table>
<thead>
<tr>
<th>Inspektion intervals</th>
<th>on commissioning</th>
<th>daily checks</th>
<th>check, maintenance every 3 months</th>
<th>check, maintenance every 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>check all screw connections</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the hand chain and the hand chain wheel for wear</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lubricate the spindle with shell Alvania EP 2 or similar product</td>
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<td></td>
<td>X</td>
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Regardless of the regulations of the relevant countries, HADEF units must be checked at least once a year by a suitably qualified person (for cranes - by a person with suitable qualifications for cranes) to check their functional safety. In Germany the accident prevention regulations are to be complied with. In other countries the relevant tests and national safety regulations shall apply.
14 Decommissioning

In order to prevent damage to the machine or the risk of serious injury when taking the machine out of commission, it is essential to note the following points:

- All the work steps for taking the machine out of commission must be done in the stated order without fail.
- Make the working area safe over a wide area for the decommissioning work.
- Check that the operating media will be disposed of appropriately.
- Read also the "General safety information" section.
- Disassembly is done in the reverse order to assembly.

14.1 Temporary decommissioning

Measures as above. Read also the "Transport and Storage" section.

14.2 Final decommissioning / disposal

Measures as above. It is necessary to ensure that the equipment and any contents are disposed of appropriately after disassembly.

15 Additional documents

15.1 EG declaration of Conformity or Manufacturer’s Declaration.