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OPERATING MANUAL – ROOF TRACK GRIPPER TYPE DBG-400

Manufacturer:
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1. General Information and Manufacturer

Manufacturer:
LK Innovationen
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Product designation: Roof track gripper type DBG-400
Type / Model number: DBG-400
Serial number:
Year of construction: 2026

This operating manual is an integral part of the product and must be accessible to the operator at all times. It must be read and observed carefully. If the device is sold or passed on, this manual must be handed over with it.

2. Intended Use

The roof track gripper type DBG-400- is a loose lifting attachment according to EN 13155. It is exclusively intended for:

- Picking up, transporting, and setting down loose, flat materials such as roofing sheets, foils, or flat insulation boards.
- Use with a lifting appliance (e.g., crane, chain hoist, rope hoist) via a suitable sling chain, rope, or directly on the crane hook.
- Use within the maximum load capacity of 400 kg per gripper.

Any other or further use is considered non-intended. The manufacturer accepts no liability for damage resulting from non-intended use. The risk is borne solely by the operator.

3. Reasonably Foreseeable Misuse

The following actions are prohibited and constitute misuse:

- Exceeding the maximum load capacity of 400 kg (overloading).
- Use for loads other than roof sheets or flat materials (e.g., loose objects, unbalanced loads, people).
- Use of the device despite visible defects (cracks, deformation, corrosion, wear, missing labelling).
- Angular pulling (pulling in any direction other than vertical) – leads to swinging and overloading of the crane (observe crane manufacturer's specifications).
- Transporting loads over people.
- Unauthorized modifications or repairs to the device (especially welding work) without the express consent of the manufacturer.
- Use in aggressive chemical environments (acids, alkalis, salt water).

4. Safety Instructions and Residual Risks

Hazard levels:

DANGER: Indicates an imminent hazard which will result in death or serious injury.

WARNING: Indicates a potential hazard which could result in death or serious injury.

CAUTION: Indicates a potential hazard which could result in minor injury.

General safety instructions:

- Read the operating manual completely and carefully before initial use.
- Observe the applicable accident prevention regulations, in particular DGUV Regulation 109-019 (Operation of load handling attachments in crane operations) as well as DGUV Regulations 53 (Cranes) and 54 (Winches, hoisting and pulling devices).
- Wear personal protective equipment (PPE): Safety shoes, work gloves, hard hat.
- The gripper may only be operated by instructed and qualified personnel.
- A visual inspection for damage must be carried out before each use (see checklist).

Residual risks:

Despite intended use and all design measures, the following residual risks remain:

- Remaining risk of load falling in the event of gross negligence (massive overloading, use of a damaged gripper, improper handling).
- Risk of injury due to swinging of the load or improper guiding.
- Crush hazard for fingers and hands when adjusting and setting the gripper.
- Risk due to unforeseeable material defects (although minimized by static tests).

The following markings must be affixed to your roof track gripper permanently and legibly (e.g., by engraving, embossing, or high-quality adhesive labels):

Manufacturer: LK Innovationen, Ludger Körner, Prinzenstr. 176, 53175 Bonn

Maximum load capacity: 400 kg

Type : DBG-400

Factory number : _____

Year of construction : _____

Dead weight : _____

Working load limit : _____

CE mark

5. Personnel Qualification

- The roof track gripper may only be operated by instructed and qualified personnel for crane operations.
- The operator must ensure that personnel have read and understood the operating manual.
- Instruction must be repeated at regular intervals.

6. Technical Data

Parameter	Value
Maximum load capacity	400 kg
Dead weight	approx. 12 kg
Dimensions (L x W x H)	approx. 40x30x20 cm
Clamping range	0–45 mm material thickness
Material	Steel S235
Proof load	800 kg

7. Scope of Delivery and Transport

Scope of delivery:

- 1 x Roof track gripper type DBG-400
- 1 x Operating manual (this document)
- 1 x EU Declaration of Conformity
- 1 x Inspection log template

8. Assembly / Before First Commissioning

WARNING: Before first commissioning, the roof track gripper must be inspected by a competent person (in accordance with DGUV Regulation 109-019).

Inspection steps before first commissioning:

1. Visual inspection for damage, cracks, deformation, or corrosion.
2. Check the labelling (load capacity, manufacturer, type, serial number, CE mark).
3. Check the moving parts for proper function (clamping mechanism).

9. Operation / Workflow

Step 1: Preparation

- Check the gripper for damage (see checklist in the appendix).
- Provide a suitable lifting appliance (crane, chain hoist).
- Crane connection: Hook the crane hook or sling chain fully and securely into the designated eye (slinging eye) of the gripper.

Step 2: Attaching the roofing sheet

1. Move the gripper to the roofing sheet to be lifted.
2. Open the clamping mechanism, slide the lower part of the roof track gripper under the roofing sheet up to the stop, open the clamping hook, lift the gripper slightly, release / let go of the clamping hook.
3. Ensure that the roofing sheet is evenly and fully seated in the clamping jaws.

Step 3: Connecting to the lifting appliance

- Connect the gripper to the lifting appliance (e.g., via crane hook or sling chain).
- Important: Never use angular pulling! The load must be lifted vertically.

Step 4: Lifting and Transport

- Lift the load slowly and without jerking.
- Only move the load over areas where no persons are present.

Step 5: Setting down and releasing

- Lower the load slowly onto the designated storage area.
- Slowly pull out the roof track gripper by lifting it again. Manually operate the clamping hook if necessary.

10. Maintenance and Servicing

Cleaning:

- Clean the gripper regularly of dirt, dust, and deposits.
- For heavy soiling, use a cleaning agent. Do not use aggressive chemicals or acids.

Inspection:

- Regularly check (at least before each use) the clamping jaws for wear.
 - Check the entire device for cracks, deformation, and corrosion.
 - Welding on the gripper is fundamentally not permitted. If damaged, the device must be replaced with a new one.
- Minor damage may be repaired by the manufacturer, for example.

11. Inspections and Intervals

According to DGUV Regulation 109-019, the following inspections are required:

Type of inspection	Interval	Execution
Inspection before first commissioning	Once before initial use	Competent person (according to DGUV)
Periodic inspection	At least annually	Competent person (according to DGUV)

The results of the inspections must be documented in the inspection log (see appendix).

12. Storage

- Store the gripper dry and protected against corrosion.
- Store the device so that it cannot accidentally fall or be damaged.

13. Disposal / Decommissioning

- At the end of its service life, the gripper must be disposed of in accordance with legal regulations.
- The gripper consists mainly of steel and can be disposed of via the scrap recycling cycle.
- Before disposal, the device must be rendered unusable (e.g., by cutting it apart) to prevent further use.

14. EU Declaration of Conformity

The EU Declaration of Conformity according to Regulation (EU) 2023/1230 is part of this operating manual and is included with each device. It can also be requested from the manufacturer if required.

15. Appendix: Pre-Operation Checklist

This checklist must be completed before each use:

No.	Checkpoint	OK	Not OK
1	Is the gripper visibly damaged (cracks, fractures, deformation, corrosion, wear)?	☐	☐
2	Are all markings (load capacity, manufacturer, CE) legible and present?	☐	☐
3	Do the moving parts (clamping mechanism) function properly?	☐	☐
4	Are the clamping jaws clean and not excessively worn?	☐	☐
5	Is the maximum load capacity (400 kg) known and complied with?	☐	☐
6	Is angular pulling avoided?	☐	☐
7	Is the area under the load free of people?	☐	☐

If any item is marked "Not OK", the gripper must not be used!

16. Appendix: Inspection Log Template

The following inspection log serves to document the required periodic inspections. It must be kept by the operator and presented at each inspection.

[illegible]