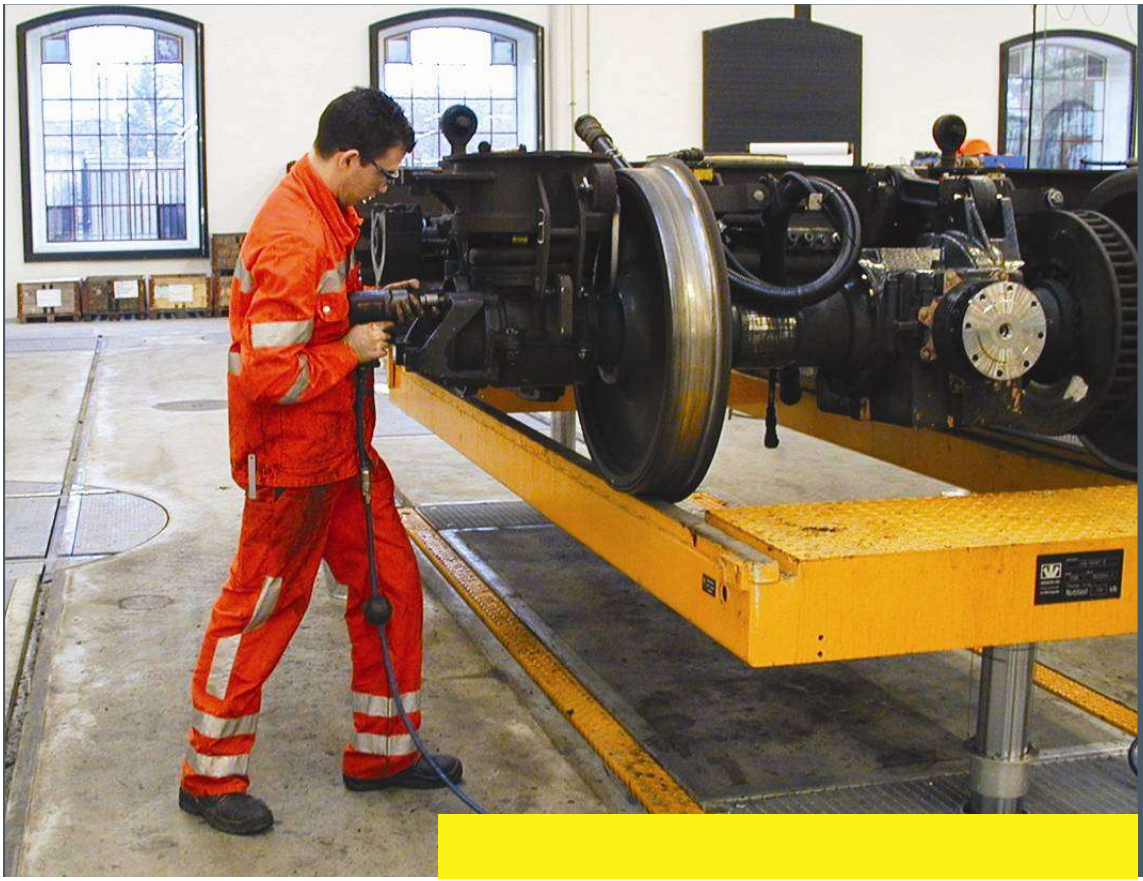

Nencki Bogie Lifting System

NBL

Technical Description

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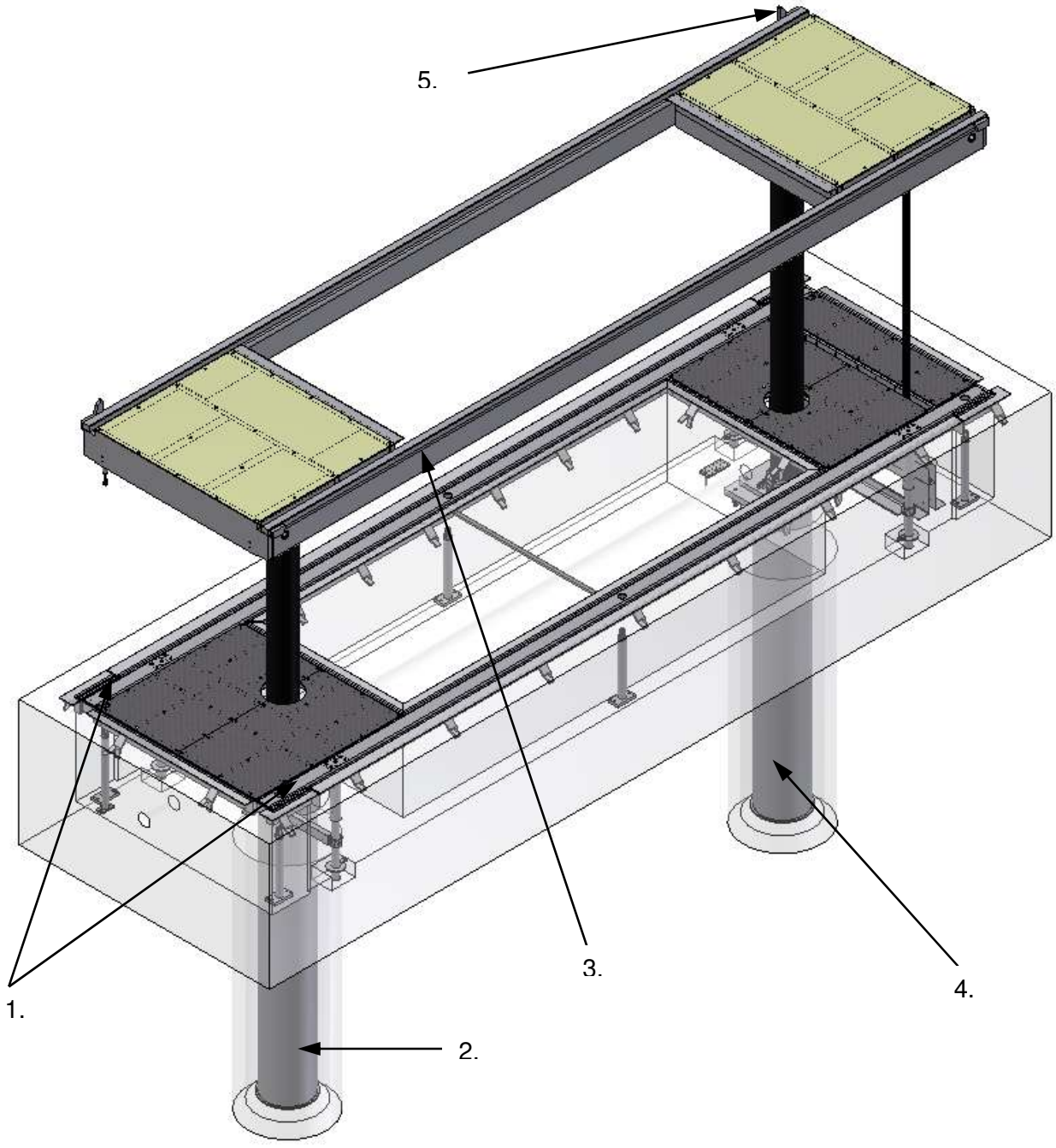
1. General

The bogie lifting device is used to lift bogies and wheel sets to an ergonomic and safe working height for assembly, disassembly, repairs or painting. Design of the system according the attached layout.



1. Automatic pit covers
2. Secondary cylinder
3. Lifting frame
4. Primary Cylinder
5. Automatic wheel stoppers

2. Field of application

The bogie lifting system is used to lift bogies and wheel sets to an ergonomic and safe working height for assembly, disassembly, repairs or painting. It can be us in work shops and paint cabin.

3. Comfort

The lifting frame flushes with the work shop floor, therefore the bogie or wheel set can be placed easily on the table.

4. Mechanical part

The machine frame is from a rigid welded steel construction. In the lowest position the bogie lifting device can be passed by any vehicle with a weight up to 20 t. The track is part of the work shop track.

The design is an open construction, without platform covering. This permits an easy access to the lifted wheel sets or bogie. The rail track (gauge to be specified) is integrated in the frame. Four automatic wheel stoppers secure the bogie, as soon as the platform is lifted from the lower position, the stoppers block the movement of the bogie.

The pit covers work automatically, all pit openings are closed after the platform is lifted from the lower position. The closed covers flush with the work shop floor.

A set of steel foundations, including edging profiles and bearing tubes for the lifting cylinders, is part of the system.

Surface treatment: sandblasted, prime coated and finished in RAL colour to be specified.

5. Control

The control panel is located nearby the lifting system, it consists of a key lock and three press buttons (lifting, lowering, emergency stop), it is prepared for wall fastening.

When lowering the platform, is stops according to CE safety regulations 500 mm before reaching the fully lowered position. The operator can ensure that no obstacles are in the trapping danger area, after pressing the pushbutton “lowering” once again, the platform will be fully lowered.

6. Hydraulics

The hydraulic power pack is supplied from a reputable manufacturer with international service agents, according to the relevant standards. It consists of the following components:

- Oil tank
- Hydraulic pump with electric motor
- Filter in return line
- Gauge for oil level and temperature
- Connection for pressure gauge
- Pressure relief valve
- Manual pump for emergency

The lifting force is applied by two hydraulic cylinders which are synchronized hydraulically. The cylinders are located under the floor level. For safety reasons the hydraulic is equipped with a manual pressure pump as well. In case off a power failure the platform can be lowered by this device.

7. Safety

The following standards and regulations were considered during development and manufacture of the machine:

- CE-conformity regulations 2006/42/EG
- Electrical material 2006/95/EG
- Electro magnetic resistance 2004/108/EG
- Basics, general design principles EN ISO 12100
- Electrical equipment for machines EN 60204-1
- Emergency Stop system EN 13850
- Avoiding of unexpected start EN 1037
- Safety module for safeguard EN 1088
- Fluid technical machines and components-hydraulics EN 982
- Pumps and pump units for fluids EN 809
- Risk classification EN 14121-1
- CE certificate

8. Operation

- Start of the control with the key lock
- Lift the bogie to the required height
- Lower the platform to the lowest position

9. Requests on the surroundings

No extra requests on the surroundings are necessary. The pit has to be prepared according the foundation layout and must be protected against weather influences.

10. Maintenance

The Nencki bogie lifting system is very maintenance-friendly and a yearly service is sufficient.

11. Technical data

Dimensions	
Lifting capacity	7 – 25 t
Length of lifting table	3000 – 6500 mm
Track gauge	To be specified
Hydraulic power pack	L x W x H; 900 x 700 x 1000 mm
Weight of the entire system	Approx. 5000 kg (length of platform 6000 mm)
Max. rail height difference	+/- 1 mm on floor level
Electrics	
Voltage	3 x 400 V AC, others on request
Frequency	50 Hz
Fuse	25 A
Power	According to lifting capacity
Protection class	IP 55
Operating temperature	5 – 40 °C
Motor speed	1500 min^{-1}
Control voltage	24 V DC
Hydraulics	
Operating pressure	According to lifting capacity
Working stroke of primary cylinder	2000 mm
Diameter of primary cylinder	200 mm
Working stroke of secondary cylinder	2000 mm
Diameter of secondary cylinder	160 mm
Lifting speed	800 mm/min
Pump capacity	27 l/min at 80 bar
Oil tank volume	100 Litres
Hydraulic oil	HLP ISO VG32 or VG46
Noise level	75 dB(A) under full load, distance 1 m

12. Imprint

Railway technology **Plant technology** **Vehicle technology** **Manufacturing** **Service**

Nencki Ltd. offers a comprehensive customer and spare parts service in Switzerland but also through international representatives.

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