

Specification Sheet

Transport trolley type WTZB

- Version:

WTZB1, WTZB2, WTZB3.

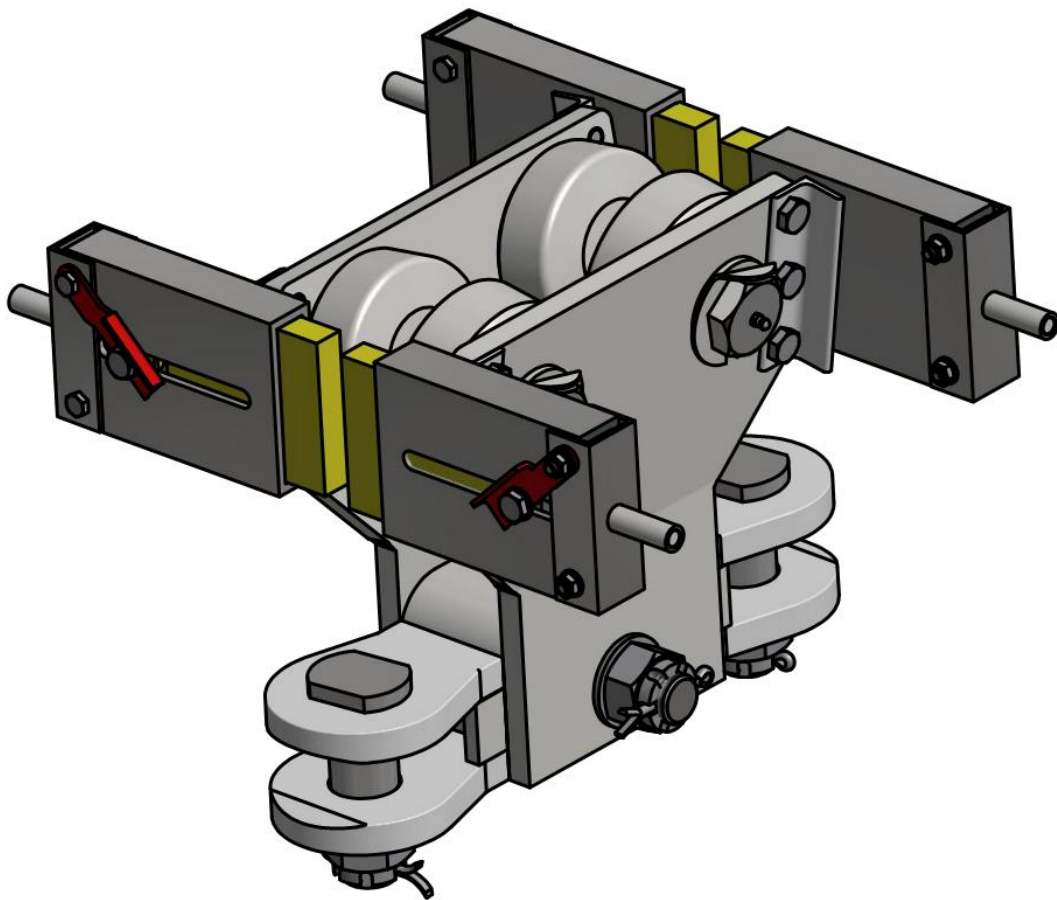




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1 Introduction.

WTZB trolleys are designed to transport loads on rails of suspended monorail trains installed in underground mines in non-methane and methane areas in mine workings of "a", "b" and "c" degree of methane explosion hazard and coal dust explosion hazard class A or B. They may also be connected directly or in a transport set to a diesel locomotive, shunting carriage and other power units approved for use in underground mines.

WTZB trolleys are also designed to suspend CRP-1 and CRP-2 frame drawbars manufactured by ZBMD Sp. z o.o. for safe guidance of brake trolleys without the need to connect them by means of pins, which results in avoiding overloading of the brake trolley structure.

The trolley can also be used as a rail web cleaner after fitting cleaning scrapers. The scrapers are made of flame-retardant and anti-electrostatic elastomer.

2 Technical characteristics.

Designation of WTZB type transport trolley:

- Max. load capacity of trolley **10t**
- Max. drive tractive force **180 kN**
- place of installation: suspended railway track I155
I140E according to DIN

weight of the trolley:

- WTZB1 version - low - 48.4 kg
- WTZB2 version - medium - 49.7 kg
- WTZB3 version - high - 51 kg

3 Product description.

3.1 WTZB – version with self-pressing scraper.

WTZB type transport trolleys are constructed from the following components:

- body (fig. 1 - Item.1),
- running wheels (Fig. 1 - Item 2),
- screws fixing the running wheels (Fig. 1 - Item 3),
- the coupling (fig.1 - Item. 4),
- vertical pin $\varnothing 40$ (fig.1 - Item. 5),
- horizontal pin $\varnothing 30$ (fig.1 - item 6),
- Scraper cartridge housings (Fig. 1 - Item 7),
- cleaning of the scraper cartridges (optional, fig. 1 - item 8),
- blocking of the ejection of the scraper insert (Fig. 1 - Item 9),
- cable holder (fig. 8- Item. 1).

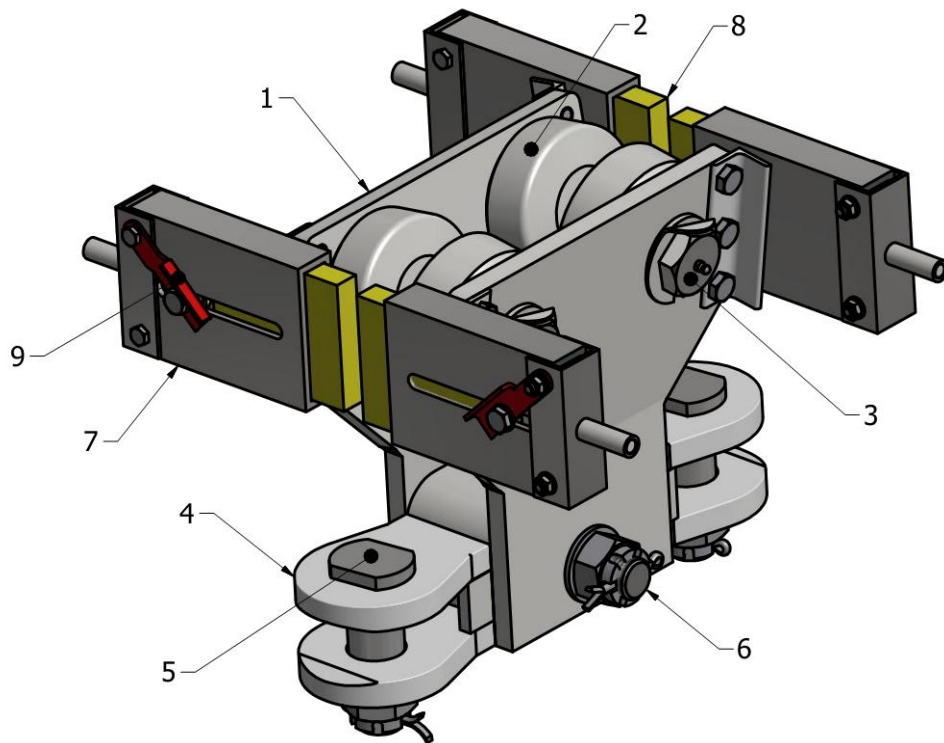


Fig. 1

The bracket fixing system (item 4) are used to connect the units with other units by means of drawbars approved by the President of the State Mining Authority. The bracket fixing system can be installed in two positions on the body, i.e. the connecting pin to the drawbar is placed horizontally or vertically according to customer's order. An example of connecting bolts in different positions is shown in Fig. 2 a,b,c.

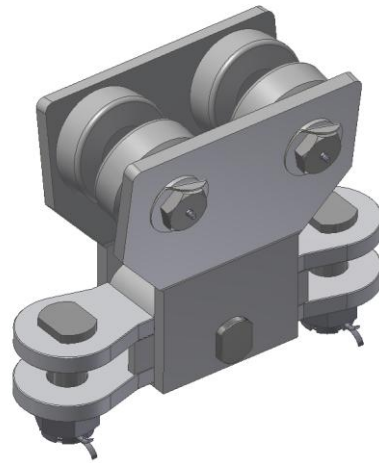


Fig.2a - horizontal-to-horizontal bracket fixing system arrangement.

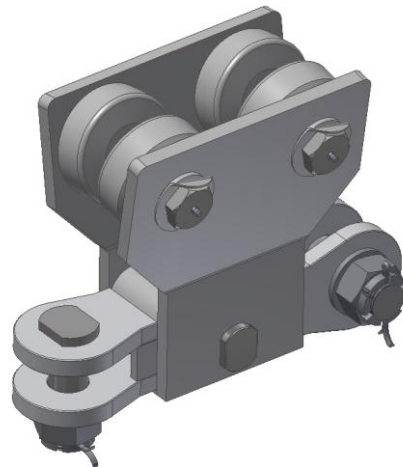


Fig. 2b - horizontal - vertical bracket fixing system arrangement.

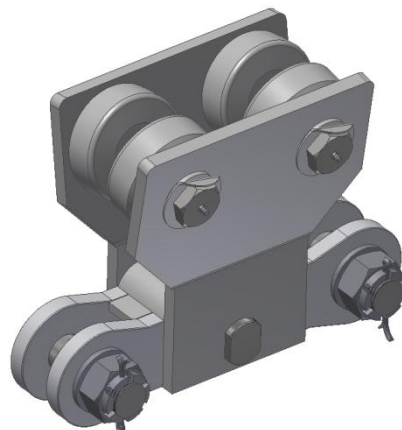


Fig. 2c - the vertical-vertical bracket fixing system arrangement.

The trolley body is manufactured in 3 height sizes:

- 1 - low,
- 2 - medium,
- 3 - high,

- It is necessary to mark the required version 1, 2 or 3 when ordering. The running wheels are designed in such a way that it is possible to assemble the WTZB trolley without unfastening the rails of the railway. The height differences of the WTZB trolley versions are shown in figure no. 3.

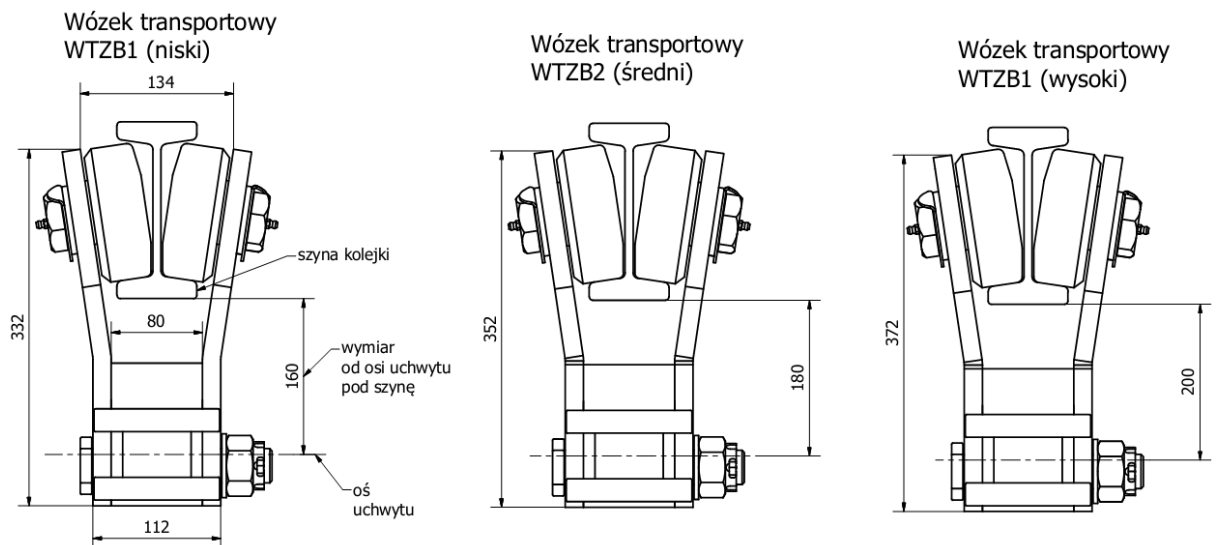


Fig. 3 - height differences of the trolley versions.

In the lower part of the body there is a $\varnothing 30$ pin horizontally located for the installation of manual, hydraulic or other winches approved for use in underground mines.

In the upper part of the body, near the running wheels (on the sides of the bogie), there are threaded holes for installing self-pressing scrapers to clean the running rail web of wet dust, rust and other deposits which can impede the movement of diesel and electric locomotives.

At the customer's request, the WTZB trolley can be equipped with two pairs of scrapers (Fig. 4), one pair of scrapers (Fig. 5), or without scrapers.

WTZB1 transport trolley (low)
WTZB2 transport trolley (medium)
WTZB1 transport trolley (high)
Rail
Dimension from the axis of the rail holder
Axis of the holder

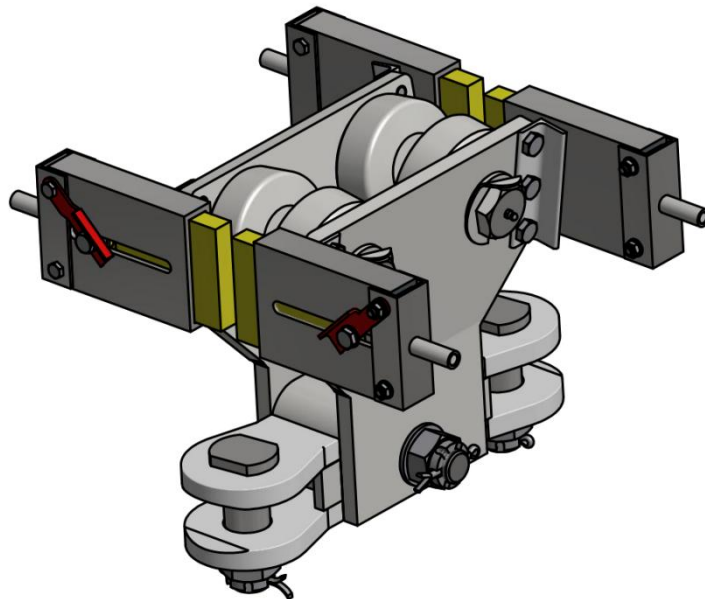


Fig. 4 - WTZB trolley with two pairs of scrapers.

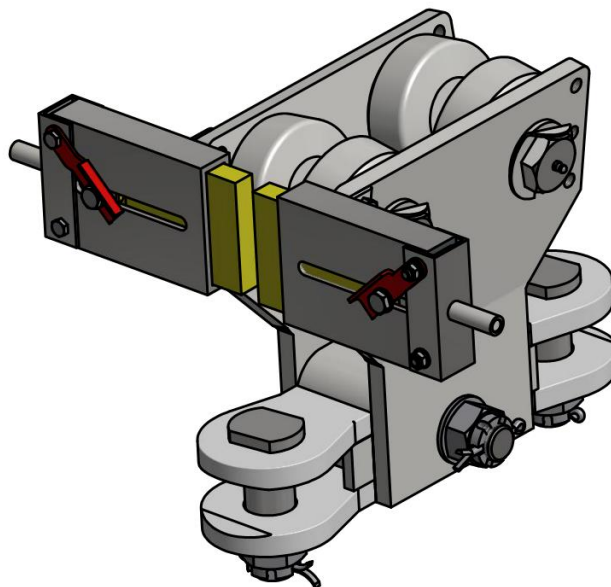


Fig. 5- WTZB trolley with one pair of scrapers.

3.1.1 Description and principle of operation of the ZGCZ-1 scraper

The ZGCZ-1 scraper is designed to control the cleaning cartridges in the cleaning position (pressed against the web, Fig. 6), or in the position without cleaning (away from the web, Fig. 7). The cartridges are pressed against the rail by springs installed in the cartridges housings.

This solution allows a more economical use of the cleaning cartridges, which are made from a special type of polyurethane, as the cleaning cartridges do not wear unnecessarily when the locomotive travels along a "clean" section of track.

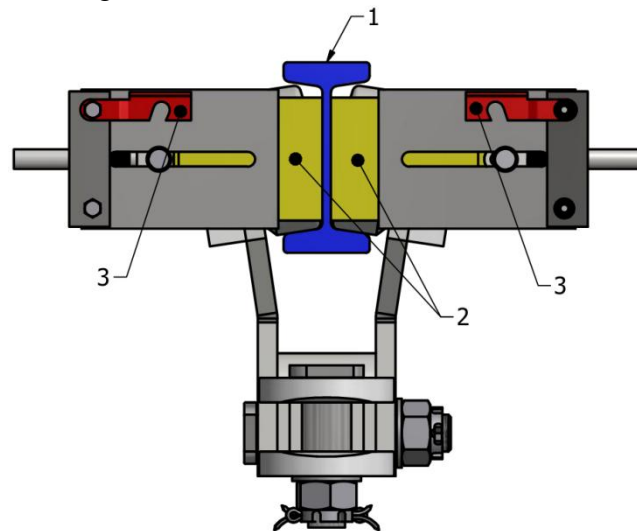


Fig. 6

1 - overhead rail
2 - scrapers in "cleaning" position
3 - locking of scrapers in the "cleaning" position

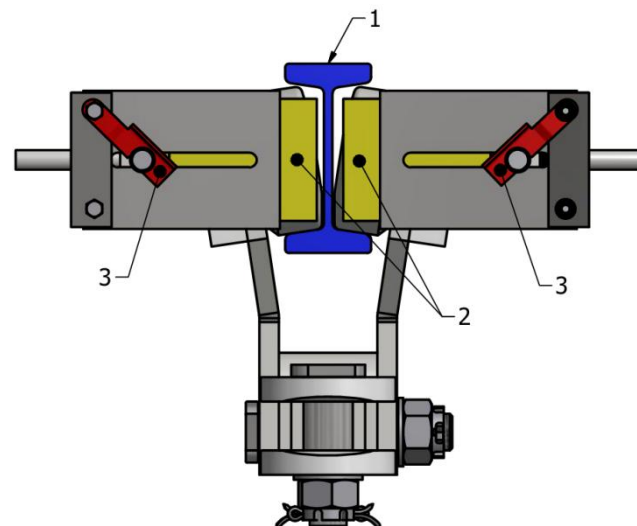


Fig. 7

1 - overhead track
2 - scrapers in "no cleaning" position
3 - locking of scrapers in "no cleaning" position

3.2 WTZB - option with cable holders.

It is also possible to equip WTZB trolley with holders for electric cables, hydraulic wires, etc. (1 to 4 pcs. depending on the Client's wish). (from 1 to 4 pcs. according to the Customer's request).

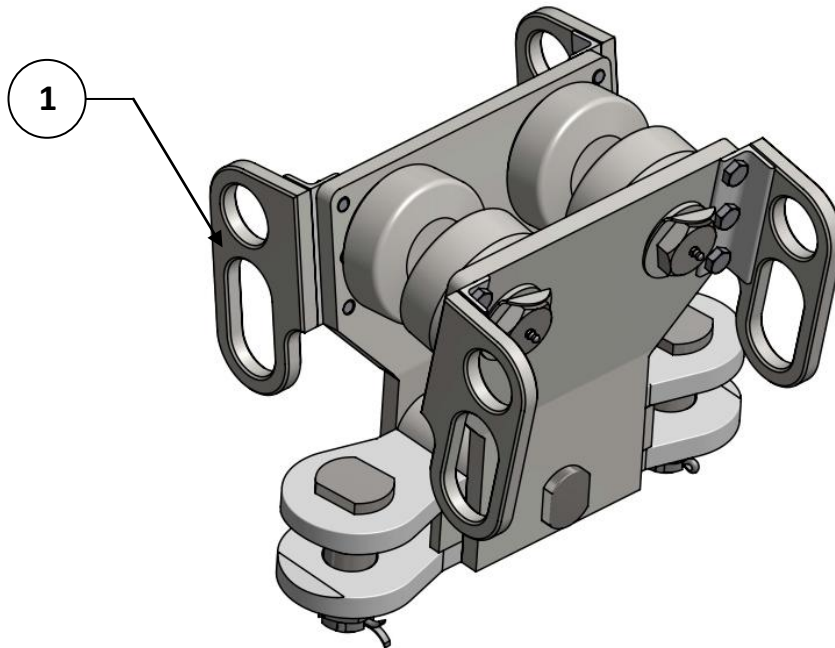


Fig. 8- WTZB trolley equipped with 4 holders (1) for pulling electric cables, hydraulic lines etc.

4 Spare parts:

- body type 1, 2, 3,
- running wheel,
- horizontal pin $\varnothing 30$,
- coupling pin $\varnothing 40$ cylindrical,
- $\varnothing 40$ ball hitch pin,
- coupling pin $\varnothing 30$ cylindrical,
- CLEANING CARTRIDGE ,
- scraper insert housing (cassette),
- cable holder.

5 WTZB trolley application examples

To the WTZB transport trolley, devices for loading and transporting materials can be directly suspended. An example is shown in Fig. 10.



a - with suspended manual hoist

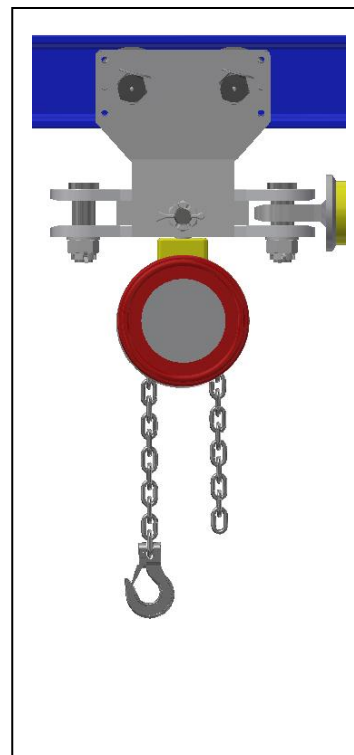


Fig. 10

b - with suspended powered chain hoist
pneumatic or hydraulic

The WTZB transport trolley can cooperate with other devices included in the transport sets. The example below (Fig. 11).

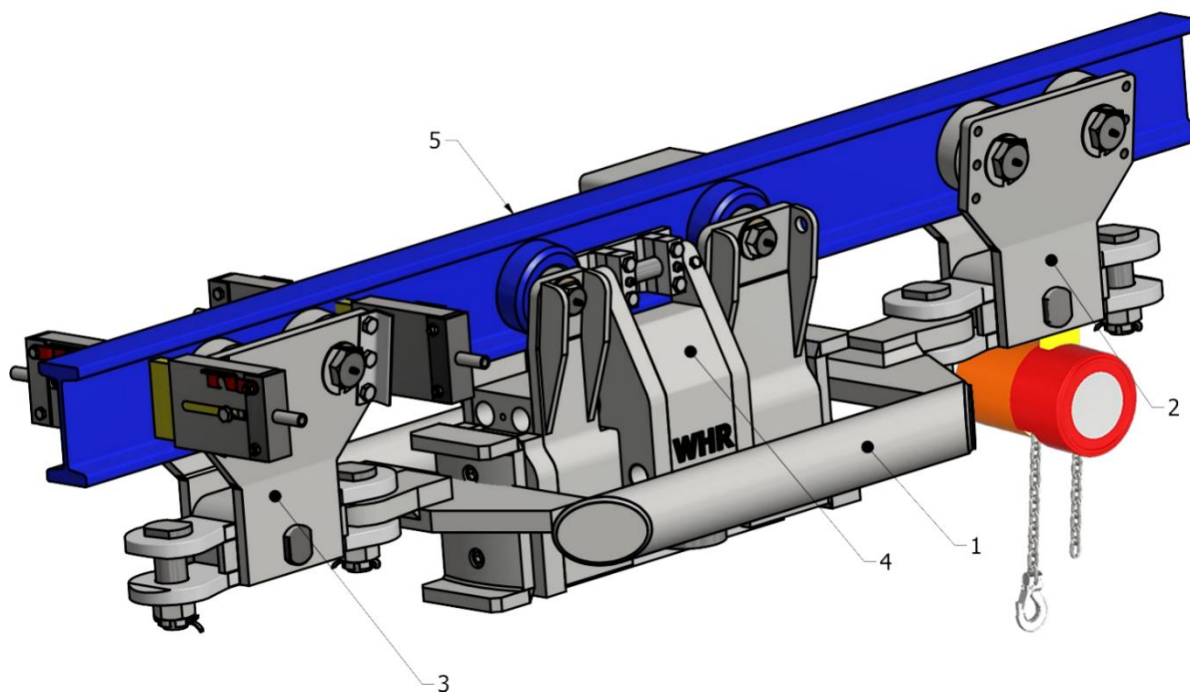


Fig. 11

Legend

1. Transport frame drawbar CRP-1
2. WTZB transport trolley with chain hoist
3. WTZB transport trolley with mounted scrapers
4. Brake trolley WHR-1/NM
5. Suspension rail

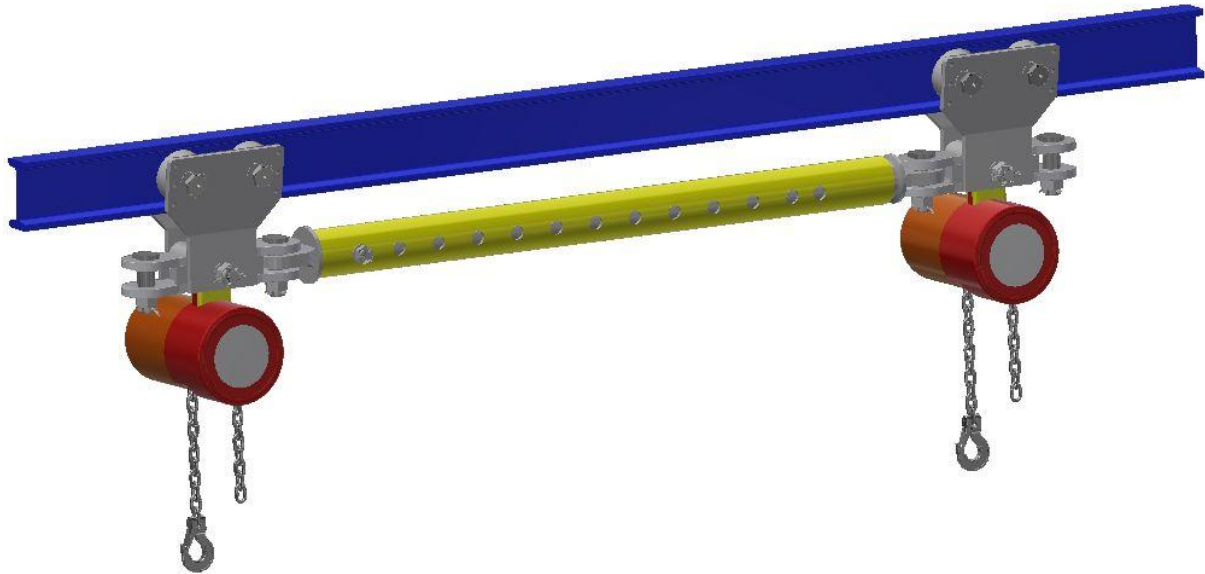


Fig. 12 - WTZB transport trolleys with telescopic drawbar and suspended chain hoists

6 Contact details.

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