

# TECHNICAL DESCRIPTION

of freight bogie

**Y25/25t**  
(3TNhb/04)

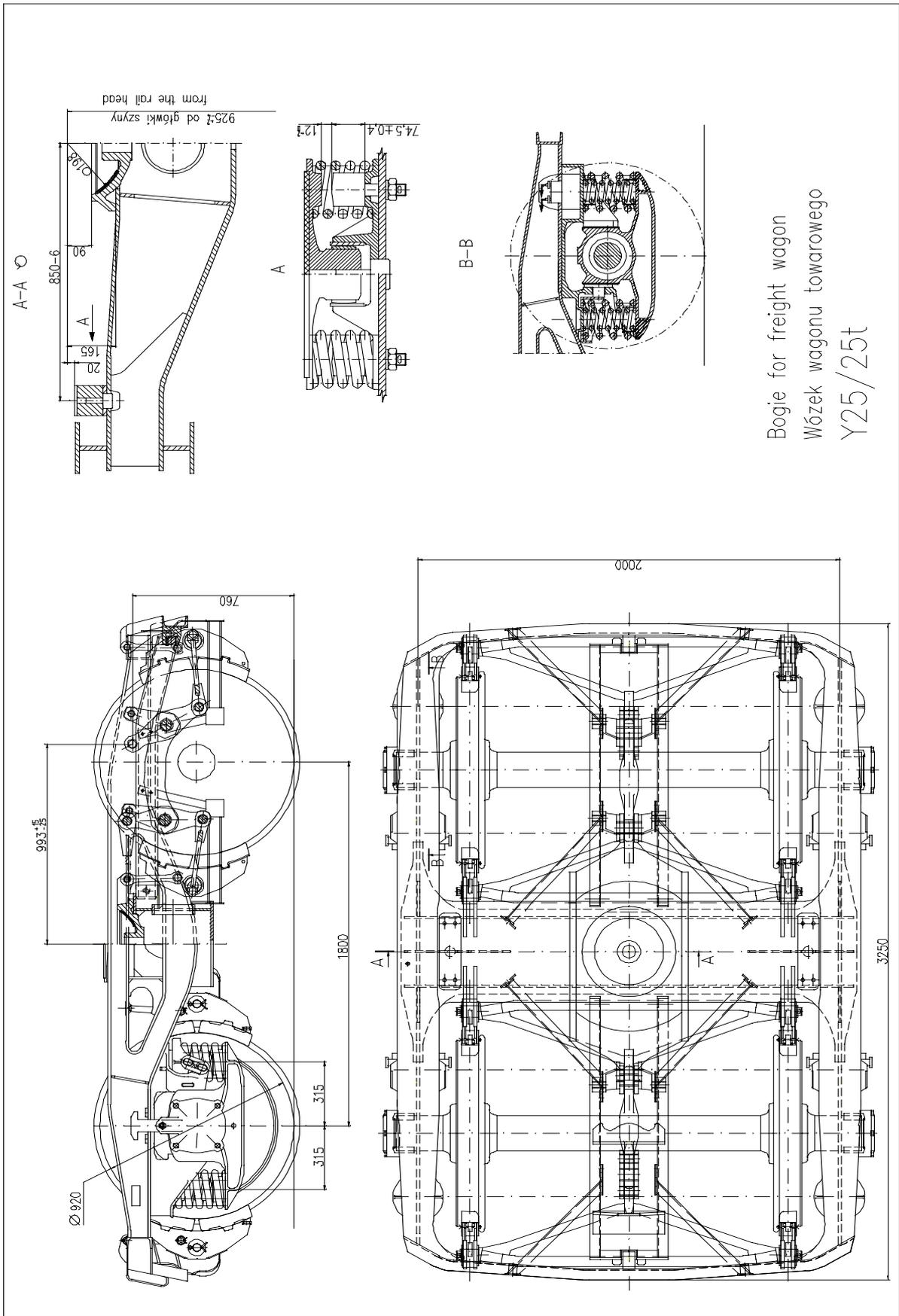
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1. The Y25/25t is a standard UIC-ORE bogie designed for freight wagons running either with the speed of up to 100 km/h and the load of 25 t. per axle or the speed of up to 120 km/h and the load of 20 t. per axle. The bogie's main assembly dimensions comply with the UIC 510-1 standard and the UIC 505-1 clearance standard. Spare parts and their marking comply with the UIC 570 and UIC 583 standards.

2. TECHNICAL CHARACTERISTICS OF THE BOGIE

Track gauge .....	1435 mm
Cylindrical bearing SKF.....	235013DD and 235014DD
Dimensions of the wheelset axle pin .....	D=130x191 mm
Maximum axle load per rail .....	25 t
Unit deflection (spring susceptibility) depending on the load:	
- below 8,5786 t .....	(2,460 mm/t) 0,2509 mm/kN
- over 8,5786 t .....	(0,8353 mm/t) 0,08518 mm/kN
Bogie weight.....	4680 kg ± 5%

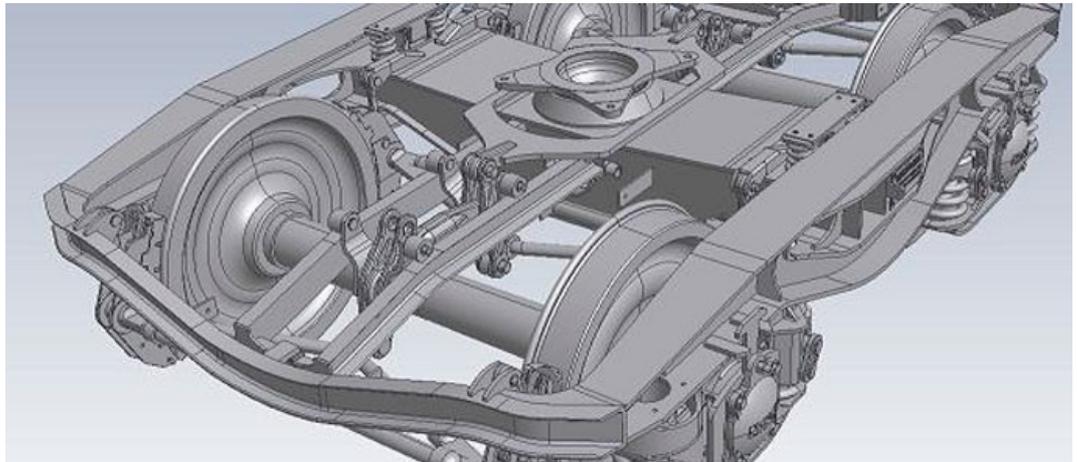
3. The bogie's external dimensions and the connection of the brake gear with the wagon's brake gear comply with the standards of the UIC 510-1 card.
4. The bogie frame is a welded fabrication made from rolled plates and profiles and from steel castings. The frame has longitudinal beams mechanically fixed to the bolster and flexibly connected to the end beam.  
The basic elements are manufactured from steel plates. The steel plate material specification is S355J2G3 DIN-EN 10025. The bogie frame has a cut-out place for inserting a weighing valve.  
The steel castings for axle box guides have welded manganese steel slides made from abrasion resistant manganese steel compliant with the standards of the UIC 893 card, category E.  
The central casting is equipped with 'Railko' – a plastic lining which does not require lubrication.  
The bogies are equipped with spring side slides with plastic linings – 'Railko' – fixed by means of 4 bolts.
5. Vibration damping is achieved by using a tear type product with the damping power proportional to the load.
6. The bogie springing uses eight pairs of springs. One pair consists of an external spring, with the wire diameter of D=31, and an internal spring, with the wire diameter of D=25,5 mm. The springs are compliant with the standards of the UIC 822 card.
7. The reinforced block brake, with double blocks, has been applied and acts on both sides of each wheel.  
The bogie is fitted with a brake weighing valve and a pneumatic installation which co-operate with the wagon brake in order to relate the braking force to the real wagon weight.  
The ratio of the brake gear is  $i=4$ , and the maximum force 120 kN. The elements used in flexible joints are hardened. The brake block inserts are made from phosphoric cast iron and meet the necessary standards of the UIC 832 card. The dimensions of the brake block inserts comply with the UIC 542 card. The weighing valve is of the WM10 KNORR, DP-1YF SAB WABCO or WESTINGHOUSE F87 type. The weighing valve connections meet the standards of the UIC 510-1 card.
8. The wheelsets' running surface diameter is D=920 mm and the wheels are tired or cast. The wheelsets meet the standards of the UIC 813 cards. The wheel profile complies with the UIC 510-2 card. The wheel material specification is R7T, in accordance with the UIC 812-3 card. The axle material specification is A1N, compliant with the UIC 811-1 card.
9. The axle boxes are made from steel castings, the tearing surfaces being covered with abrasive resistant manganese steel plates meeting the standards of the UIC 893 card, category E. The axle boxes are sealed with grooved rings.
10. Painting is done according to the customer's needs. (the bogie may be operated in different zones and climates).



Bogie for freight wagon  
 Wózek wagonu towarowego  
 Y25/25t



- + Flat wagons
- + Covered wagons
- + Intermodal wagons
- + Car carriers
- Special/bogies
  - Fammoor
  - Shimmns
  - [Y25 TTV](#)
  - MPSV



## Y25 TTV

### Freight wagon bogie

A 2-axle freight wagon bogie that is a development of UIC approved bogie type Y25 Lsd 1. Designed for a 25-tonne axle load, the Y25 TTV bogie frame is made from cut and welded steel plates. There are two side beams, one transverse beam and two end beams. The lower centre pivot is welded to the transverse beam. A centre pivot liner is included. The mountings for suspended sides are bolted to the transverse beam and the cast steel guides for the wheel sets are welded to the bogie frame. Both laterally and longitudinally, axle clearance meets the UIC standard.

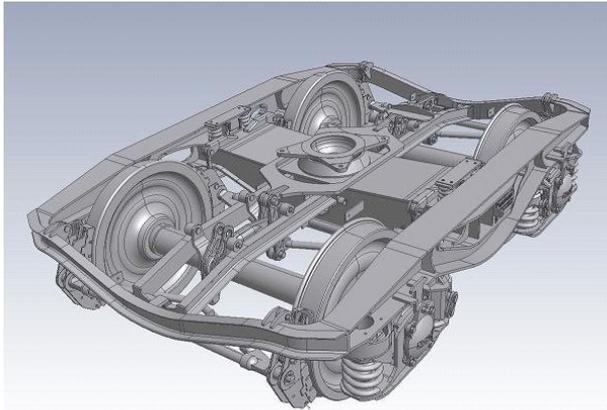
The wheel sets use monoblock, type H57 wheels and the axle boxes are type SJ 45 T or SJ 45. All the necessary wheel braking components are housed in the bogie frame. The remaining components (brake cylinders, controllers, air tanks, etc.) are located in the chassis. Brake rigging is for 120 kN. There are double, SJ 7 type brake blocks and the brake shoes are cast iron. The bogie is preconfigured for the mounting of a weighing valve (which, determined by the carried load, automatically controls braking force).

## Technical Data

Gauge	1,435 mm
Wheelbase	1,800 mm
Wheel bearing cc distance	2,000 mm
Wheel diameter	920 mm
Height of centre pivot above top of rail	880 mm
Tare weight	5.050 kg
Permitted axle load (excl. wheel set)	25 tonnes
Max. permitted speed with axle load of 22.5 tonnes	120 km/h
Max. permitted speed with axle load of 25 tonnes	100 km/h



Y25 TTV is 2-axle freight wagon bogie for 25 ton axleload. It is a development of the UIC approved bogie type Y25 Lsd 1. The bogie is designed for 25 ton axleload. The bogieframe is formed of cut and welded steel plates. There are two side beams, one transverse beam and two end beams. On the transverse beam is the lower centre pivot welded. Centre pivot liner is included. The suspend side seats are bolted on the transverse beam. The Wheel set guides of casted steel are welded on the bogie frame. The clearance of the axle both laterally and longitudinally fulfils the UIC-standard.



The wheel sets are monoblock wheels, type H57. The axle boxes are of type SJ 45 T or SJ 45. In the bogie frame is the necessary components to be able to brake the wheels. All other components as brakecylinders, controllers and air tanks are placed in the chassie. The brake rigging is for 120 kN. There are double brake blocks of type SJ 7. The brake shoes are of cast iron. The bogie is prepared for mounting of a weighing valve which automatically controls the brakeforce depending on the load.

Gauge:	1 435 mm
Wheelbase:	1 800 mm
Wheel bearing cc-measure:	2 000 mm
Wheel diameter:	920 mm
Height of centre pivot above top rail:	880 mm
Tare:	5 050 kg
Admissible axleload (except for wheelset):	25 ton
Admissible speed with 22,5 ton axleload:	120 km/h
Admissible speed with 25 ton axleload:	100 km/h

# BOMBARDIER TRANSPORTATION

	Y25 Lsd	Y25 Lsd/Rss	Y25 Lsd1/Rss	Y25 L/Rss1	Y25 Lsd1	Y25 Ls2d1	Y25 HI-LOAD
Track Gauge	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm
Frame characteristic	with welded longitudinal beams		with longitudinal beams flexible connected to head beam				
Brake characteristic	60 kN, without weighting valve	120 kN, with weighting valve	120 kN, with weighting valve	120 kN, with weighting valve	60 kN, without weighting valve	60 kN, with weighting valve	120 kN, with weighting valve
Max. axle load per rail (at speed)	22,5 t (100km/h)	22,5 t (100km/h), 20 t (120 km/h)	22,5 t (100km/h), 20 t (120 km/h)	22,5 t (100km/h), 20 t (120 km/h)	22,5 t (100km/h)	22,5 t (100 km/h), 14,5 t (120 km/h)	25 t (100 km/h), 22,5 t (120 km/h)
Maximum speed	100 km/h	120 km/h	120 km/h	120 km/h	100 km/h	120 km/h	120 km/h
Bogie weight	4600 kg	4900 kg	4900 kg	4900 kg	4600 kg	4600 kg	4950 kg
Customer	PKP	PKP	PKP / DB / SNCB	NS	PKP / DB	PKP	SNCB AAE