



AUTOMATIC COUPLER MAINLINE TSI (LATCH TYPE 10)

For Mainline & Metro applications

Fully automatic front coupler with proven in use design, running in various trains across Europe.

KEY FEATURES

Modular Design grants flexibility and availability

Optimized LCC based on Standardization and long overhaul periods

Various energy absorption systems to ensure safe operation

KEY CUSTOMER BENEFITS

TSI conformity

Extended overhaul period up to 12,5 years

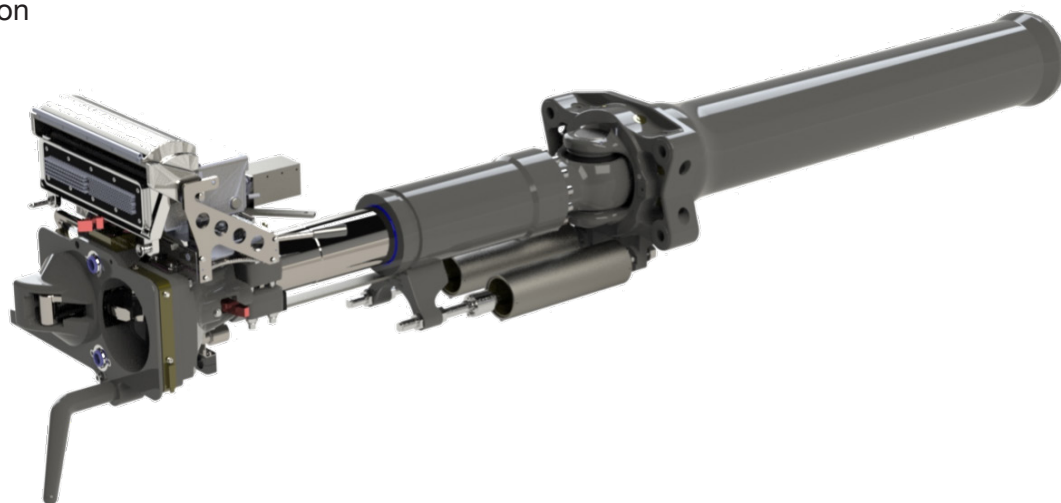
Equipped with intelligent, demand optimized heating system for rough winter conditions

Customizable coupling / crash energy management concept

Gigabit & wireless connectivity

Standardization leads to high availability of spare parts

Semi-Permanent Coupler as complementary product



REFERENCES

Proven in service across Europe, among others at:

Deutsche Bahn (DB)

Trenitalia

Schweizerische Bundesbahnen (SBB)

Österreichische Bundesbahnen (ÖBB)

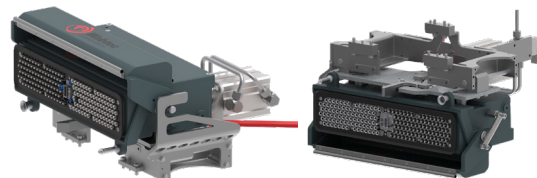
České dráhy (ČD)

TECHNICAL SPECIFICATIONS

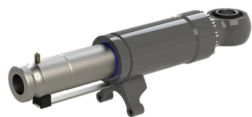
Compression force	Up to 1500 kN
Tension force	Up to 1000 kN
Operating Temperature	-40° C to 70° C
Electrical Coupler	Interchangeable “plug-and-play” modules



Coupler Head
Type 10



Electric Coupler



Draw & Buff Gear



Flange & Support



Deformation Tube



CONTACT

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AUTOMATIC COUPLER METRO MODULE

For Metro, Light Rail Vehicles & Automated People Movers

Multi-purpose Front Automatic Couplers, available with Pneumatics & Electric head. Available with latch type couplers heads such as Type 10, 35, 130, 135, 330 or COMPACT®.

KEY FEATURES

Full modularity results in flexibility

Optimized space envelope based on patented crash management

Standardization results in optimized Life Cycle Costs

KEY CUSTOMER BENEFITS

Available with other Coupler Heads

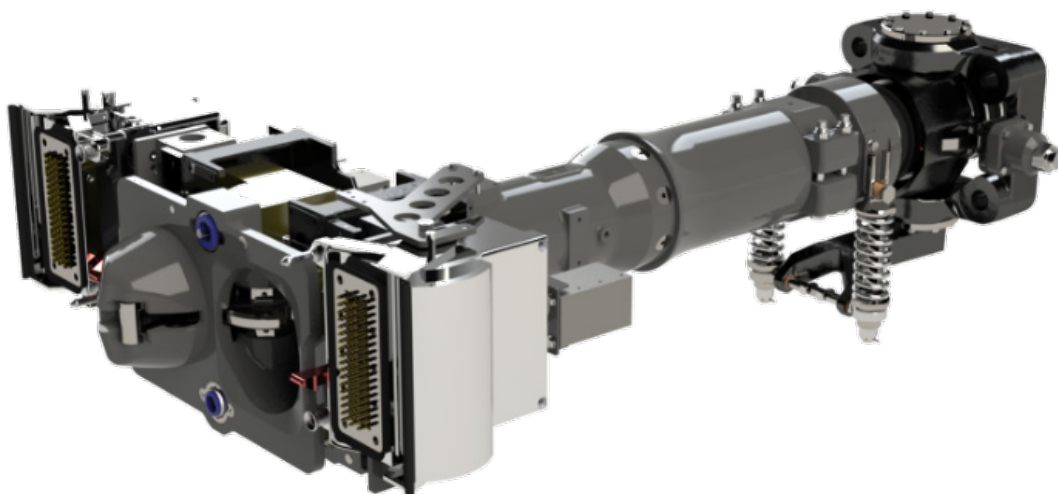
High dynamic energy absorption

Extended overhaul period

Modular Design, available with push-back feature

Individual integration into Crash Energy Management System (CEMS)

Fully localized in India for local market



REFERENCES

Wabtec Metro products in operation in several applications in Europe, Asia Pacific, India and North America, e.g.:

ATM Milano

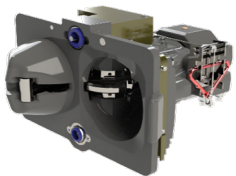
MTR Hong Kong

Kanpur Agra Metro India

Miami Dade Transit

TECHNICAL SPECIFICATIONS

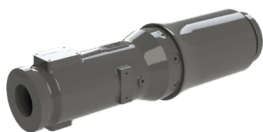
Compression force	Up to 1250 kN
Tension force	Up to 850 kN
Automatic Air Connection	MRP, BP
Electrical Coupler	Various mounting positions and modular contact layout
Operating Temperature	-40° C to 70° C



Coupler Head
Type 330



Electric Coupler



Deformation Tube



Pivot Articulation

CONTACT

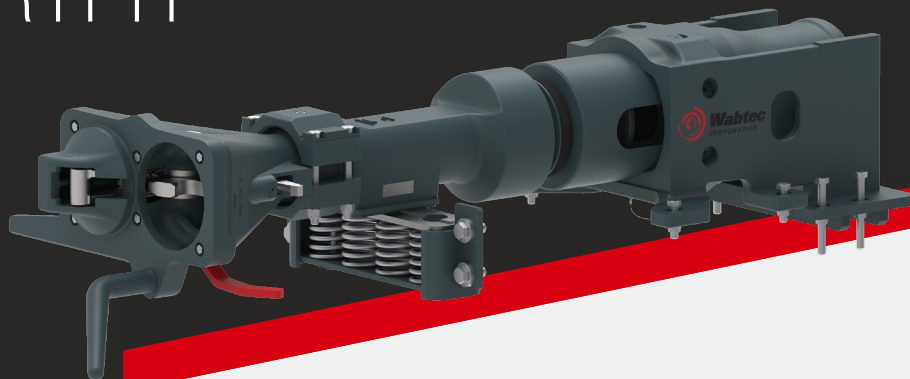
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CRASHWORTHY COUPLER

High-capacity jerk free coupler with crashworthiness for Indian railways



Crashworthy coupler is an integration of Type 10 coupler head, balanced draft gear and deformation tube, newly developed for LHB coaches of Indian railways. It is common modular Draft gear design for AAR-H/Type10/SPC couplers to LHB coaches. This product complies with DIN EN 16019, DIN EN 15227, DIN EN 15551 and TSI requirements.

KEY BENEFITS

- Safe Journey
 - Crashworthy coupler will absorb energy in a controlled manner
 - Reduction in the risk of overriding of cars
 - Reduction of the risk of derailment
- Slack/jerk free because of Type 10 coupler head
- No modifications are required in the existing LHB cars of IR to implement the crashworthy coupler

KEY FEATURES

Type 10 Coupler

TSI certified Type 10 coupler head is designed for higher strength applications and higher speed. This supports customers ambition of running 200 kmph trains in mainlines. It also provides jerk free ride along with anti climbing possibilities. Wide gathering range of type 10 coupler head according to DIN EN 16019 enables the train to negotiate in a curve of min 175mm radius but it also can be used in much lower track radius.

Balanced Draft Gear

It is a field proved design in Indian railways. Similar product is supplied by Wabtec from last 10 years. This design is optimized to meet the 1800kN compressive load. Specially designed stopper avoids rupturing of the elastomer pads and ensures successful operation of deformation tube in case of crash. This will also support 1500kN of tensile load.

Shear Off and Deformation Tube

This coupler is designed such a way that shear off triggers at 2000kN and deformation tube activates. This arrangement absorbs 357kJ of irreversible energy and safeguards the carbody in case of crash. The housings used in this design allows 6° of vertical articulation and 12° of horizontal articulation.

Supporting Plate

This proven design fixes the coupler system to the carbody, and it helps in maintaining the height of the coupler axis from the track, irrespective of the variations in the car dimensions.

Spring Support

This is also a proven design used in BDG project of Indian railways. It supports the weight of Coupler system and in the meantime, it allows the articulation without any hindrance.

PRODUCT SPECIFICATIONS

Description	Parameters
Compression load	1800 kN
Tension load	1500 kN
Shear of load	2000 kN
Reversible stroke in compression load	46 mm
Reversible Energy absorption in compression load	20-35 kJ
Reversible stroke in Tension load	24 mm
Reversible Energy absorption in tension load	8 kJ
Irreversible stroke	188 mm
Irreversible energy absorption	357 kJ
Horizontal articulation	6°
Vertical articulation	12°

PRODUCT SIZE AND WEIGHT

Description	Parameters
Dimensions (mm)	1690 mm length
Weight	475 kg



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