

Metro System

Oleo has developed a modular Coupling and Anti-climbing system specially designed for the Metro market with standard head types including Type 330 and Type 10.

The couplers are fitted with the Oleo Sentry energy absorption system with strokes and load ratings to suit the requirements of Metro applications.

All Oleo couplers have been extensively tested to reduce Non-recurring costs and lead times – detailed test reports to be available with product supply.

The couplers and anti-climbers are designed to work together to provide the optimum passenger safety in the event of an accident, and all Oleo products are fully configurable with Oleo's 1D Rail simulation software.

Integration of the Sentry Energy Absorber into the coupler system removes the need for heavy draft springs and draft housings.

By reducing the variety and complexity, this can allow for lower project costs per train coupling system whilst also offering higher coupling speeds, significant weight savings and reduced life cycle costs.

Applications

- Metro**
- Light Rail**
- Locomotive & Freight**
- High Speed**
- Mainline**

Couplers

Automatic coupler with Type 330 electrical head and Oleo Sentry energy absorber with buff, draft and crash functions



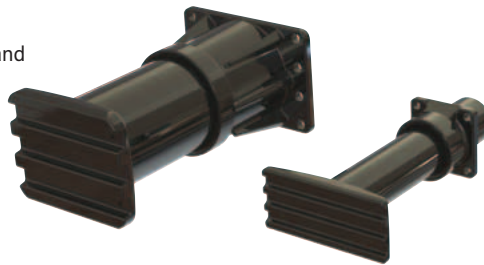
Semi-automatic coupler with Type 330 and Oleo Sentry energy absorber with buff and draft functions

Semi-permanent coupler with Oleo Sentry energy absorber with buff, draft and crash functions



Anti-climbers

Low force (up to 500kN) and High force (up to 1000kN) deforming Anti-climbers



Product details

Standard range of Oleo couplers and Anti-climbing devices:

COUPLERS

- Standard coupler heads with pneumatic coupling/uncoupling (UC).
- Standard Pneumatic connections for MRP (Main Reservoir Pipe) and BP (Brake Pipe).
- Electrical heads with high-speed data transmission option 100Mbit.
- Modularised Buff, Crash and Draft energy capacity.
- Standardised car body interfaces.
- Maximum Force range up to 1200kN.
- Adjustable centring and support.
- Bracket with integral shear off connection.
- Fully customisable force/stroke characteristics at no extra cost.
- All couplers and energy absorption devices have been tested by Oleo with validated mathematical models in accordance with EN15227. Representative elements are available for Radioss and LS-Dyna finite element software.
- The system used by OLEO for the mathematical modelling of crash scenarios is approved by a European Rail Authority as being accurate, appropriate and properly controlled.
- Standardised design for reduced manufacturing lead-time and lower cost.

ANTI-CLIMBERS

- Deforming tube technology for improved crash performance (low force and high force options).
- Standard fixed length and design per stroke.
- Extensive range of available strokes.
- Standard Anti Climber head profile and Mounting Plate design.

Product advantages

- Modular range of Coupler and Anti-climber options to suit Metro project requirements.

COUPLERS

Oleo's Coupler Devices enable:

- Lower price per Train Set.
- Lower Life Cycle Costs.
- Weight saving.
- Faster Coupling Speeds.
- Reduced Potential Impact Damage.
- Increased Passenger Protection.

Performance optimisation at no cost with pre loads ranging from 40kN to 450kN.

Low mass design with higher recoverable energy absorption than any alternative solution.

Maintenance free between major train overhaul periods.

Standardised modular design with clamp connections for ease of service.

ANTI-CLIMBERS

- Performance can be fully optimised with Oleo 1D Rail at no additional cost.
- Controllable and predictable deforming forces across the complete stroke.
- Near 100% energy absorption efficiency.
- Standard mounting options for ease of customer selection.
- Designed to withstand vertical offsets ($\pm 40\text{mm}$ from axis).

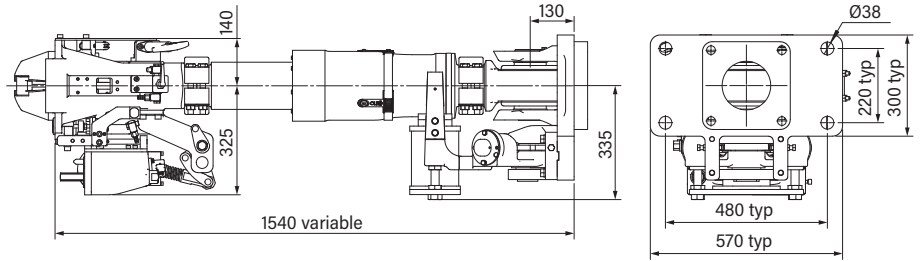
Metro coupler specifications

Automatic coupler

Electrical head, anchor with centring, support and integral shear off device.

Type 330 or Type 10 Coupler head and **Oleo Sentry** energy absorber, with buff, draft and crash functions.

Mass - 550 kg typ

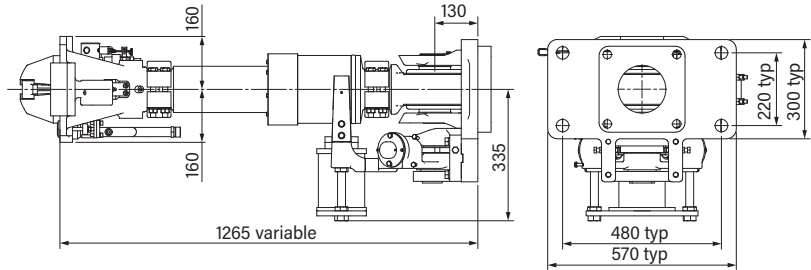


Semi-automatic coupler

Anchor with centring, support and integral shear off device.

Type 330 or Type 10 Coupler head and **Oleo Sentry** energy absorber, with buff and draft functions.

Mass - 385 kg typ

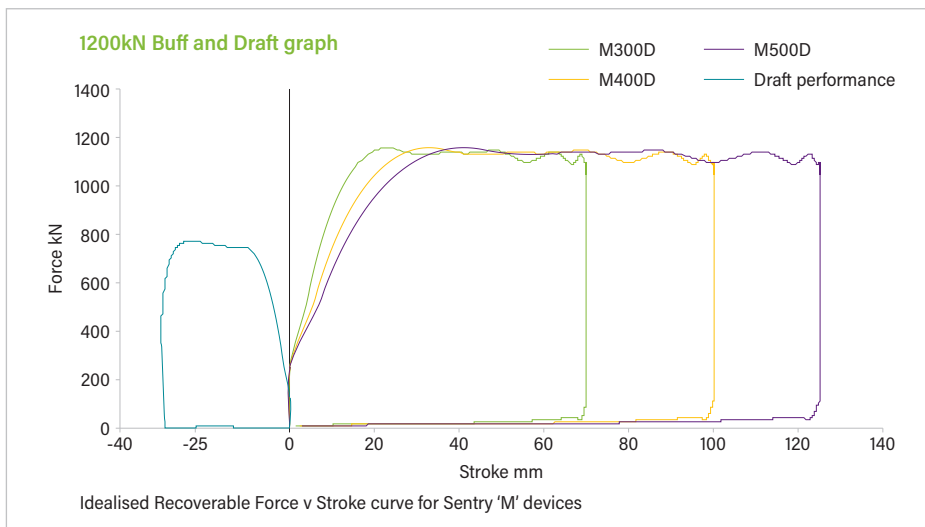
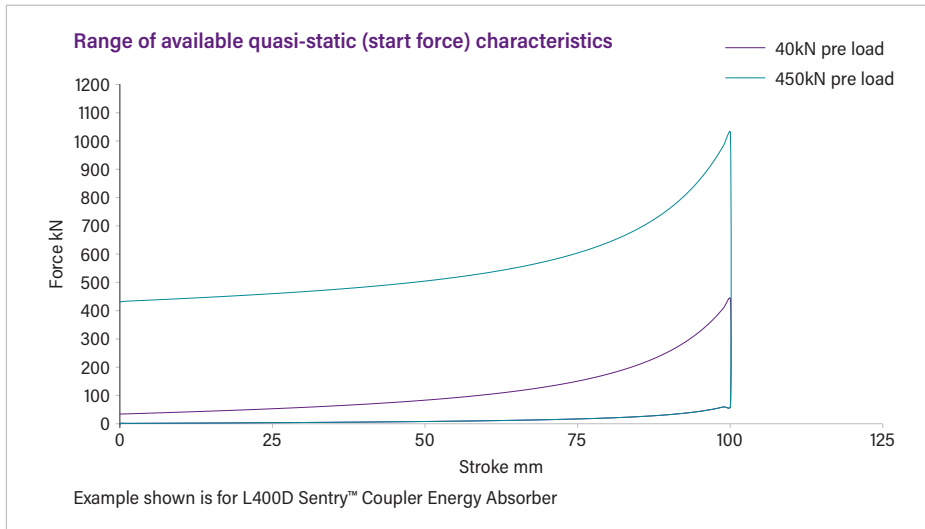
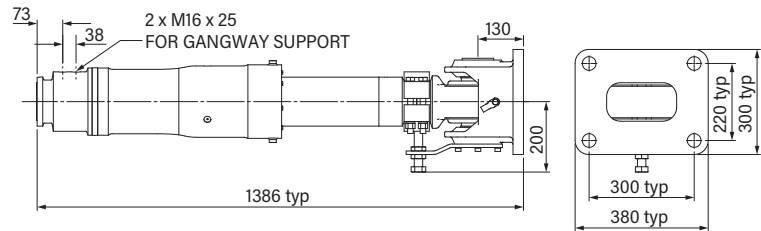


Semi-permanent coupler (intermediate)

Anchor with temporary support and interface for gangway support bracket.

Oleo Sentry energy absorber with buff, draft and crash functions.

Mass - 206.5 kg typ



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