

# Couplers



**miRA** | **CAF**  
MOTION & INTELLIGENCE IN RAILWAYS  
smart rolling

# Visionaries in innovation

In addition to the design, creation and commercialization of wheels, axles, wheelsets and gerboxes, CAF MiiRA unveils its latest innovative product to the market, **couplers**. Fully designed and developed by CAF MiiRA Engineers, this product will complement MiiRA's extensive portfolio of intelligent solutions offered by the company.



**Automatic coupler** solutions for all passenger vehicle types

## Coupler head types:

**T10 - T35 - T135 - T330 - T430\***

- Standardized buffers to reduce cost and improve lead times  
 Personalized buffers for crash management optimization
- Automatic coupler for crash management incorporating a permanent deformation tube for energy absorption.
- Possibility to include heating for low temperature environments
- High speed data connections possible
- Electrical and pneumatical connections

\*\* On going development

## Semi-permanent coupler



### Different pivot anchor solutions

- EFG2 / EFG3
- EFG3 collapsible
- Compact



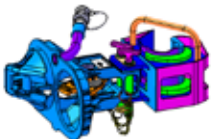
### Different center sections:

- Stiff tube
- Damper
- Collapsing tube
- Support for gangway
- Air connection

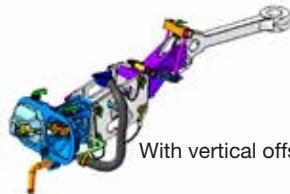


## Transition couplers

Light weight flexible designs. Different combinations and models:



T10 to AAR



With vertical offset

## Solutions

CAF Miira solutions cover a wide range of applications for metro, regional and high speed trains.

	Automatic coupler		Semi-permanent
	Coupler head	Energy absorption	Energy absorption
High speed	T10	<ul style="list-style-type: none"> <li>Compact buffer</li> <li>Buffer + collapsing device</li> </ul>	<ul style="list-style-type: none"> <li>Compact buffer</li> <li>Collapsing EFG3 and collapsing tube</li> </ul>
Regional	T10	<ul style="list-style-type: none"> <li>EFG3 + buffer</li> <li>Compact buffer</li> </ul>	<ul style="list-style-type: none"> <li>EFG3 + buffer</li> <li>EFG3 + collapsing tube</li> <li>Collapsing EFG3</li> </ul>
Metro	<ul style="list-style-type: none"> <li>T10</li> <li>T35</li> <li>T135</li> <li>T330</li> </ul>	<ul style="list-style-type: none"> <li>EFG2 + buffer</li> </ul>	<ul style="list-style-type: none"> <li>EFG2 + buffer</li> </ul>
Tram	<ul style="list-style-type: none"> <li>T135</li> <li>T430**</li> </ul>		

\* Automatic coupler solutions for PI, PII, PIII and PIV type vehicles according to EN 12683-1

\*\* On going development