

REMARKABLE FEATURES

- ⇒ Maintenance free
- ⇒ Extremely low friction torque
- ⇒ Operating temperature: **-47°C to 200°C**
- ⇒ Max load: **12kNm**
- ⇒ No temperature effect on characteristic (<5%, 20°C-150°C)
- ⇒ High frequency response
- ⇒ Max. temperature regulation valve
- ⇒ Blow-off valve opening at high angular speed
- ⇒ **120.000 hours MTBF**
- ⇒ Fluids in accordance with **Def-Stan 01-5 list**

PHYSICAL CHARACTERISTICS

- ⇒ Contact dimensions: 304x250x155 mm
- ⇒ Overall dimensions: 412x250x152 mm
- ⇒ Weight: **29.5kg**
- ⇒ Lever travel: **110° (380mm vertical)**



AR29T is the new generation of Rotary Damper by Piedrafita especially designed for Heavy vehicles operating in very tough environment. This is the direct evolution of our AR01/AR02 damper with an **extended range of use** (Temperature, Load, Life time...).

Its **full-hydraulic characteristic** means no alteration of performance during its whole maintenance free life and extremely low friction torque.

The use of **Titanium alloy** and **high-tensile steel** in the design of main parts coupled to a deep weight optimization reduced significantly the weight of our product.

The **configurable bleeding valves** will make this damper precisely follow the damping curve of your choice

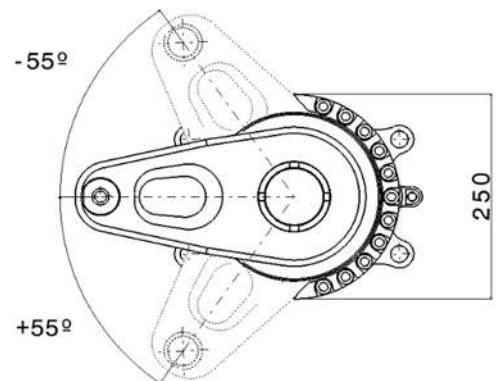
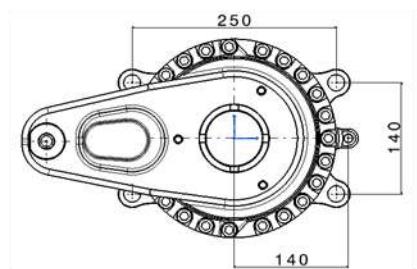
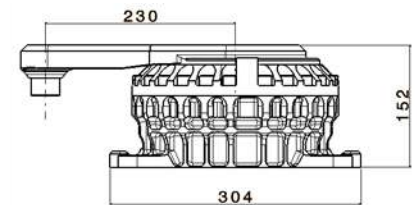
Its **compact design** is specially adapted to tracked vehicles and fits in very restrictive space claims.


TECHNOLOGY READINESS LEVEL

TRL 9 – SYSTEM READY FOR FULL SCALE DEPLOYMENT.

- TRL 8 – INCORPORATED IN COMMERCIAL DESIGN.
- TRL 7 – INTEGRATED PILOT SYSTEM DEMONSTRATED.
- TRL 6 – PROTOTYPE SYSTEM VERIFIED.
- TRL 5 – LAB. TESTING OF INTEGRATED SYSTEM.
- TRL 4 – LABORATORY TESTING OF PROTOTYPE.
- TRL 3 – PROOF-OF-CONCEPT ESTABLISHED.
- TRL 2 – CONCEPT AND APPLICATION FORMULATED.
- TRL 1 – BASIC PRINCIPLES OBSERVED AND REPORTED.

DIMENSIONS



 **Optimum vehicles**

 **Light vehicles**

 **Mid-range vehicles**

 **Heavy duty vehicles**

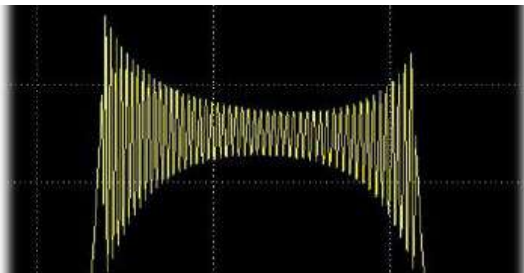


READY FOR YOUR PROJECT

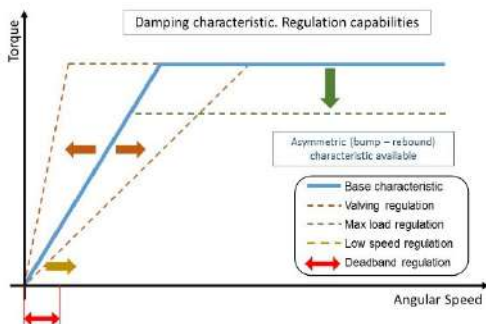
Piedrafita has already designed, engineered and manufactured several complete solutions, all based on our proprietary IP. This R&D effort together with our IP management strategy allow us to use this experience to meet client requirements and scale our proven solutions.

Embedded proprietary IP

- ⇒ Resonant dual-pilot blow-off damp control system opening at high linear speed (**up to 10 m/s**).



- ⇒ Damping characteristic tailoring.



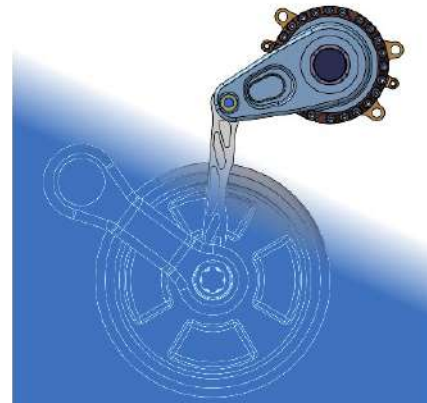
CUSTOM DESIGN

Our engineering team from the design office to prototyping workshop is ready to re-configure our solution and adapt it to your particular requirements.

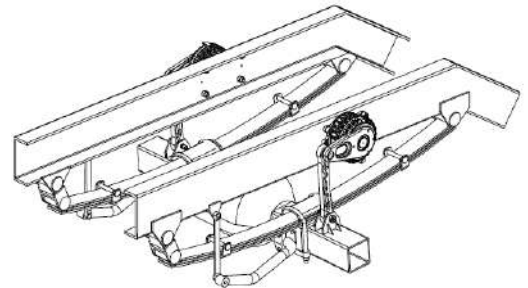
- ⇒ Engineering consultancy related with heavy duty and high mobility vehicles.
- ⇒ Mechanical design, engineering and construction.
- ⇒ Logistics (ILS), safety and certification capabilities.
- ⇒ Full project support.

APPLICATIONS

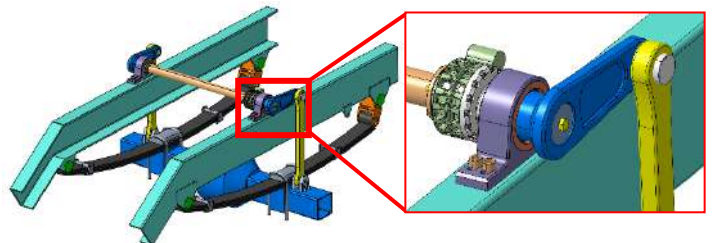
- ⇒ **Tracked vehicles.** Heavy duty and long-travel suspension systems.



- ⇒ **Wheeled vehicles.** Heavy duty and long-travel suspension systems.



- ⇒ **Anti-roll damper.**



- ⇒ Damping **heavy loads in rotational movements** with a **full hydraulic** angular speed vs torque characteristic by installing the AR29T in the rotational centre. Common in lock gates and swing tails where loads are high and speed is low.