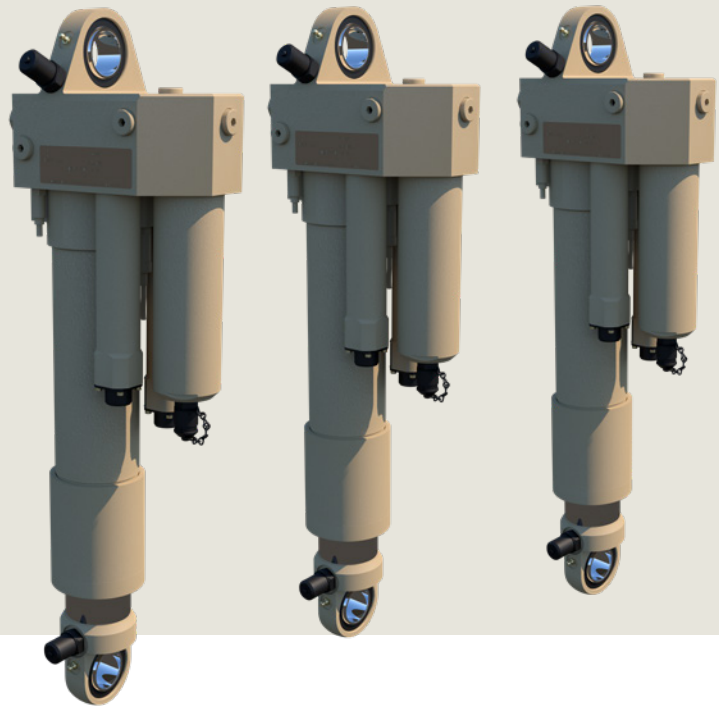


SUSPENSIONS

HydroCore®

/ Suspension Type
Hydro pneumatic



Developed by Horstman in 2022 for tracked vehicle and wheeled applications, HydroCore® is a new cost effective Hydrostrut® designed from the outset to allow for scalable mobility architecture with variants for commercial and military use. Within each variant there are a number of versions to allow for varying weights per wheel station. The versions are Small, Medium, Large and Extra Large.

HydroCore® is the first integrated hydro pneumatic spring and damper product developed under the Horstman scalable mobility architecture. This architecture offers an affordable way for vehicle manufactures to install a HydroCore® strut at the time of vehicle manufacture and at a future date add new functionality to the HydroCore® strut through the application of one or more upgrade kits; all without modification of the HydroCore® strut.

The HydroCore® strut is available in either a passive damping kit, semi-active damping kit or fully active kit configuration. Improved levels of stability, ride quality and speed-over-terrain performance result from the installation of different upgrade kits. The HydroCore® strut configuration can be modified at initial installation or at any future time simply by the addition of the desired upgrade kit. Available upgrades are the Ride

Height Control System (RHCS™) kit, Smart Track Tensioner kit and Prognostics & Diagnostics kit.

Our scalable mobility architecture and HydroCore® product offers vehicle manufacturers and fleet managers true flexibility – a single product for maintenance purposes with multiple upgrade kits that can be installed as and when desired. Different vehicle configurations in the same fleet of vehicles can now have a common part for maintenance purposes but have the option to deploy improved performance or functionality depending on theatre or threat levels.



Reference Vehicles

- M5 RCV

HydroCore®

Passive HydroCore® Features

- Single strut part supports multiple axle weights via use of adjustable gas spring
- Single strut part supports multiple damping curves via easily replaceable passive damping valve cartridge
- Future Proofed strut comes fully equipped to support add-on scalable Ride Height Control System (RHCS™), active damping, or fully active suspension upgrade kits
- Addition of RHCS™, active damping, or fully active upgrade kits supports implementation of Prognostics and Diagnostics software applications

Active Damping HydroCore® Features

Addition of the Active Damping kit provides the following benefits:

- Enhanced mobility can be used in one of two ways: Reduce absorbed energy entering the vehicle, leading to improved stability and operating costs, by approximately 1/3 when compared to a passive suspension when maintaining constant speed; or Increased speed across a given terrain while maintaining the passive suspension's level of absorbed energy
- Future proofed strut simplifies upgrade to enable active damping or RHCS™
- Enables implementation of advanced software applications

Fully Active HydroCore® Features

Addition of the fully active upgrade kit enables the following benefits:

- Further enhanced mobility which can be used in one of two ways: Reduce absorbed energy entering the vehicle, leading to improved stability and operating costs, by approximately 2/3 when compared to a passive suspension when maintaining constant speed; or To increase speed across a given terrain while maintaining the passive vehicle suspension's level of absorbed energy
- Regeneration of energy that is otherwise lost as heat in passive or active damping suspension configurations
- Future proofed strut simplifies integration of fully active or RHCS™ upgrade kits
- Enables implementation of advanced software applications

Options

- Passive HydroCore®
- Active Damping HydroCore®
- Fully Active HydroCore®
- Smart Track Tensioning

Accessories

- RHCS™ Kit includes: Driver Display, RHCS™ Controller
- Active Damping Kit includes: Active Damping Controller, Active Damping Module
- Fully Active Damping Kit includes: Fully Active Controller, Fully Active Motor Assembly, Application Softwares



Trusted Partner.

Horstman United Kingdom

Locksbrook Road,
Bath BA1 3EX
United Kingdom

Horstman United States

44215 Phoenix Drive,
Sterling Heights, MI 48314

Horstman Canada

110 East Drive,
Brampton, Ontario L6T 1C1
Canada

E information@horstmangroup.com
www.horstmangroup.com

Details provided about the properties and usability of the products are purely for information purposes and do not constitute a guarantee of these characteristics. The extent of goods delivered is determined by the subject matter of the specific contract. No liability accepted for errors or omissions. Subject to technical alterations. © Horstman 2023