

Automotive Robot Track System

<https://www.hepcotion.com/applications/automotive-robot-track-system/>

INDUSTRY	PRODUCT	PROCESS
Automotive	HDS2 Heavy Duty Linear Guide	Spraying

The Application

Applications where robots are required to operate around cars are very common in the automotive industry, and they often involve some form of process such as welding, spraying or seal testing. Installations often use a number of linear tracks with multiple drive systems to perform the task; a single-track system where a robot can operate at the sides and ends of the car is a welcome innovation.

Product Solution

This solution is a development from the successful HDRT heavy-duty ring and track product used extensively in the automotive industry.

The carriage traversing a single edge rail arrangement uses heavy-duty rollers within a cast iron block from Hepco's MHD product range. Rails are rectangular in section and feature a rack cut inside edge that links with the curved end segments. Carriage plates supporting the robots can be customised to allow sufficient room for the gearbox and motor arrangements.

The four MHD blocks on each carriage use 144mm diameter rollers, each block has rollers positioned top and bottom and one to the side. The total carriage capacity is approximately 32 tonnes making the product suitable for heavy robots.

An additional pair of rollers almost eliminates the play that develops as the carriage traverses the curve to the straight section; this negates the need to design a more complex bogie type arrangement. This is an innovative and reliable solution that will save design and installation time.

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