

HepcoMotion®

Large Diameter Rings, Segments & Track Systems

HepcoMotion® has an enviable reputation for its acclaimed PRT2 and HDRT ranges of ring slides and track systems. These products facilitate low friction circular and circuit motion with a system of V-profiled circular and straight slides and matching V-profiled bearing wheels and carriages.

The PRT2 range includes standard rings from Ø105 to 1578mm, bearings from Ø13 to 54mm, and with system load capacities from 90 to 10,000N.

The HDRT range includes standard rings and segments from Ø512 to 1656mm, bearings from Ø64 to 120mm, and with load capacities from 10,000 to 60,000N.

The new range now includes rings and segments of **unlimited diameter**, using V-profiled bearings of Ø150mm and ultra-strong roller based bearing blocks which provide a system load capacity in excess of **30 tonnes**. Rings, segments and tracks can be made in stainless steel, and supplied with machined **gear teeth**.



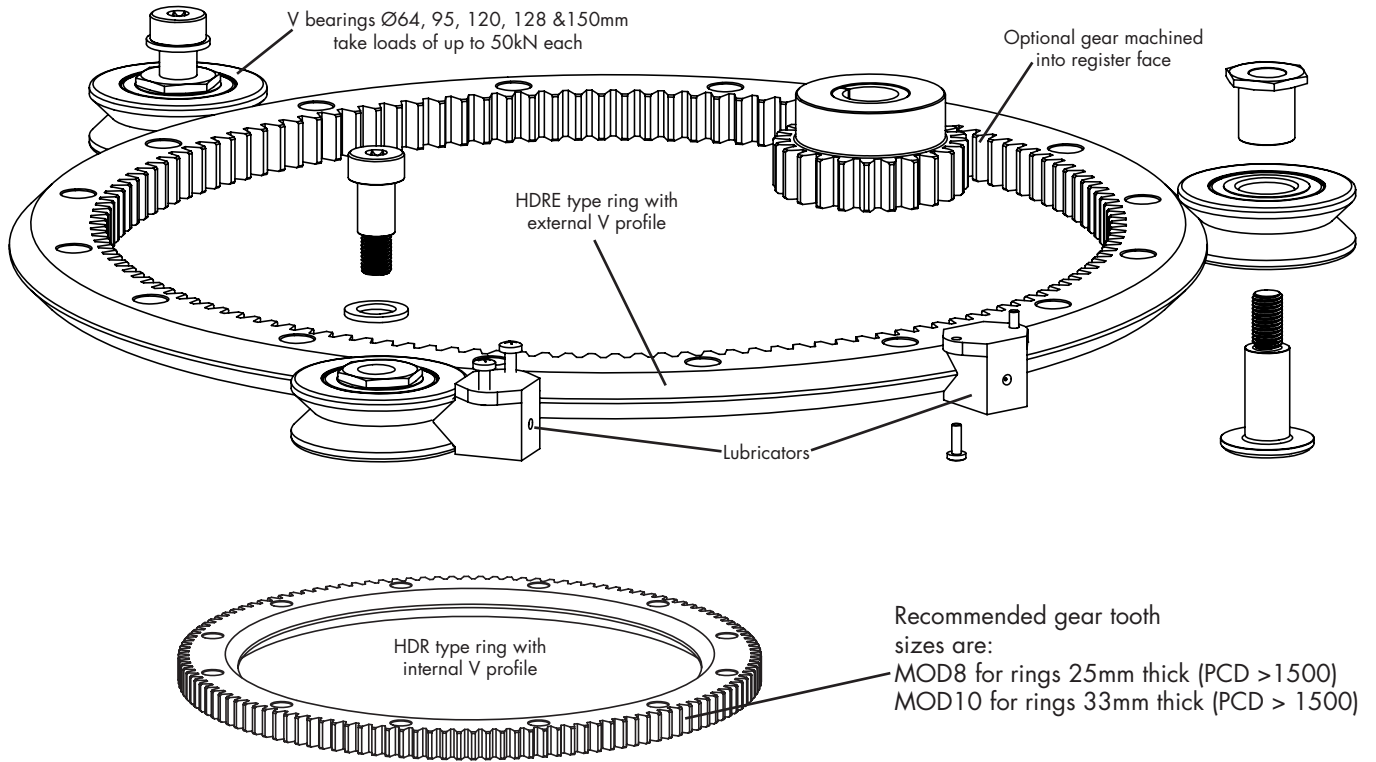
Large Diameter Ring Formats

Single Edge Rings with 90° V Profiles

The design of these rings is similar to that of the HDR and HDRE rings in the HepcoMotion HDRT range (see HDRT catalogue [6-9](#) available at www.HepcoMotion.com/HDRTdatauk).

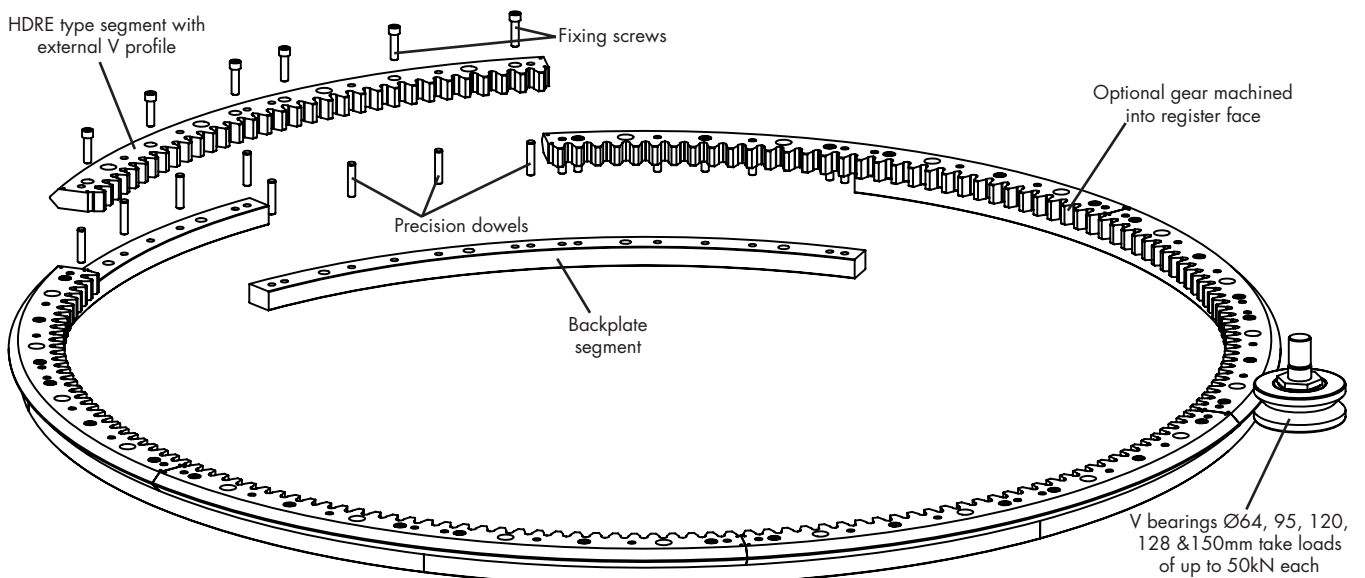
The key enhancement is that rings of any diameter can be made. 25mm thick rings are compatible with the Ø64, 95 & 120mm bearings from the HDRT range, and the new 33mm thickness is compatible with the Ø128 & 150mm bearings from the HDS2 range (see HDS2 catalogue [18-19](#) available at www.HepcoMotion.com/HDSdatauk).

Rings up to an outside diameter of 1800mm will usually be made in one piece. These will be hardened on the V faces and ground on all precision surfaces. Gearcut and stainless steel versions are available.



Rings over 1800mm in diameter are made in segments, and are usually assembled with matched backplates using the staggered joint construction shown below. Segments are hardened on the V faces. Stainless steel and gearcut versions are available.

There is no upper limit in the diameter available, but it is usual that rings over 3m in diameter are supplied partially disassembled for ease of transport.



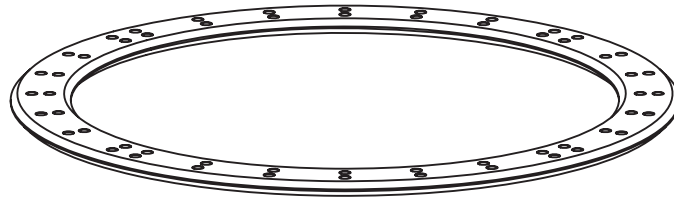
Large Diameter Ring Formats

Double Edge Rings & Segments with 90° V Profiles

The design of these rings is similar to that of the HDRD rings in the HepcoMotion HDRT range (see HDRT catalogue [6-9](#) available at www.HepcoMotion.com/HDRTdatauk).

The key enhancement is that rings of any diameter can be made. 25mm thick rings are compatible with the Ø64, 95 & 120mm bearings from the HDRT range, and the new 33mm thickness is compatible with the Ø128 & 150mm bearings from the HDS2 range (see HDS2 catalogue [18-19](#) available at www.HepcoMotion.com/HDSdatauk).

Rings up to an outside diameter of 1800mm will usually be made in one piece. These will be hardened on the V faces and ground on all precision surfaces. Gearcut and stainless steel versions are available.

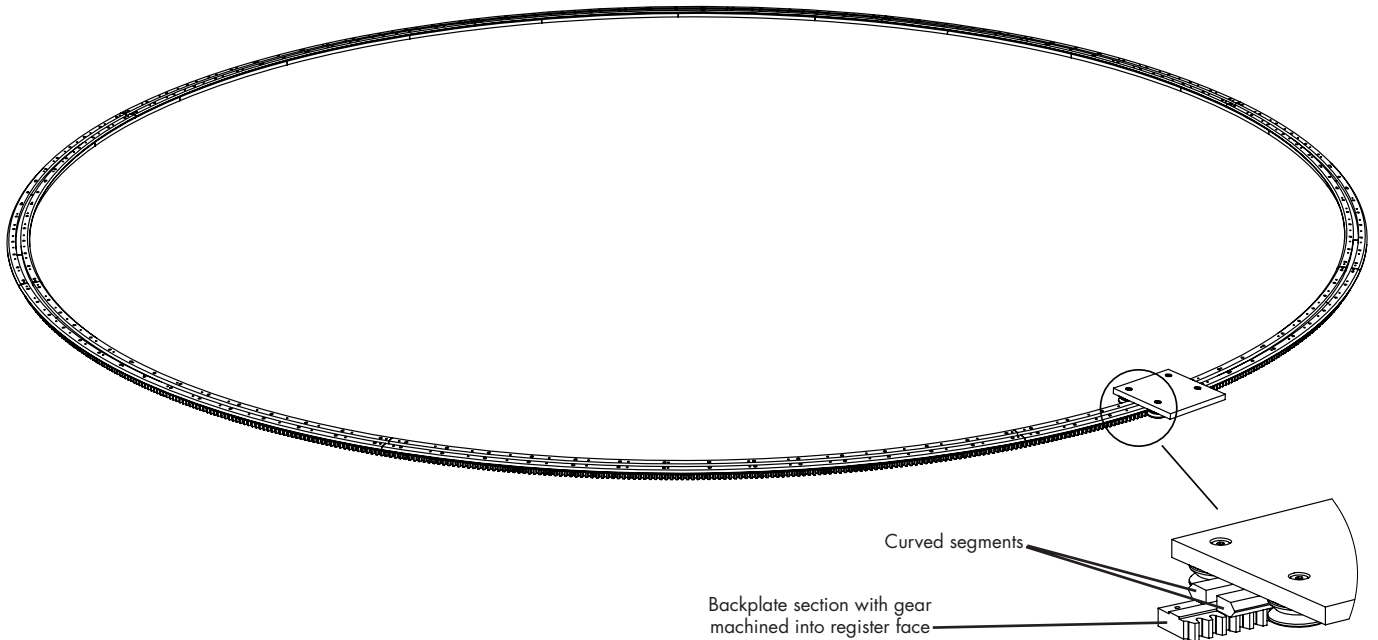


HDRD type ring with internal & external V profile

Rings over 1800mm in diameter are made in segments, and are usually assembled with matched backplates, using a staggered joint construction similar to that shown for the single edge rings at the bottom of page 2.

For very large double edged rings (typically diameters of 7m and above) it can be more economical to use the alternative staggered joint construction shown below. The backplate portion may be gearcut, if required. MOD 8 gear teeth are recommended for gears up to 25mm face width, and MOD 10 for Gears up to 40mm face width.

There is no upper limit on the diameter available, but it is usual that rings over 3m in diameter are supplied partially disassembled for ease of transport.



Carriages can be provided with any double edge rings and segments. The preferred constructions will broadly follow the design from the HDS2 catalogue [26-29](#) available at www.HepcoMotion.com/HDSdatauk. These designs can include lubricators or cap wipers for lubrication.

The designs include rack driven carriages, and the geared motors necessary to drive them.

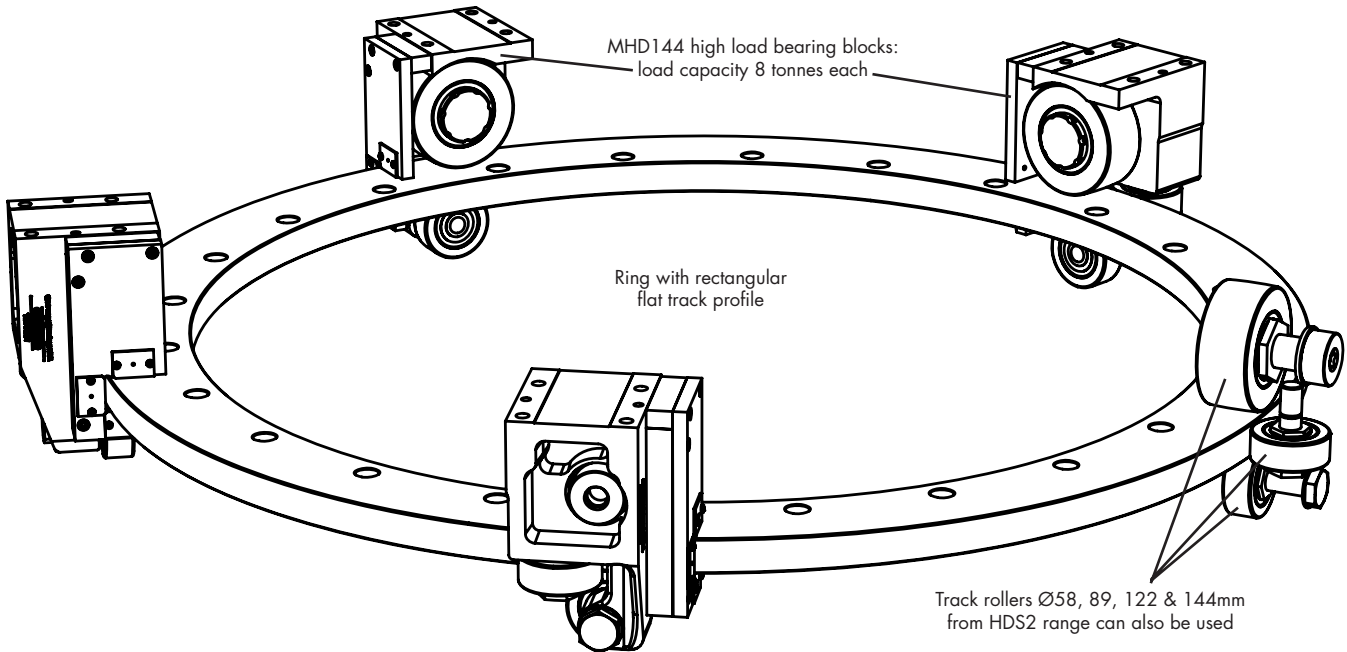
Please contact Hepco to discuss your design requirements.

Large Diameter Ring Formats

Rings with Rectangular Profile

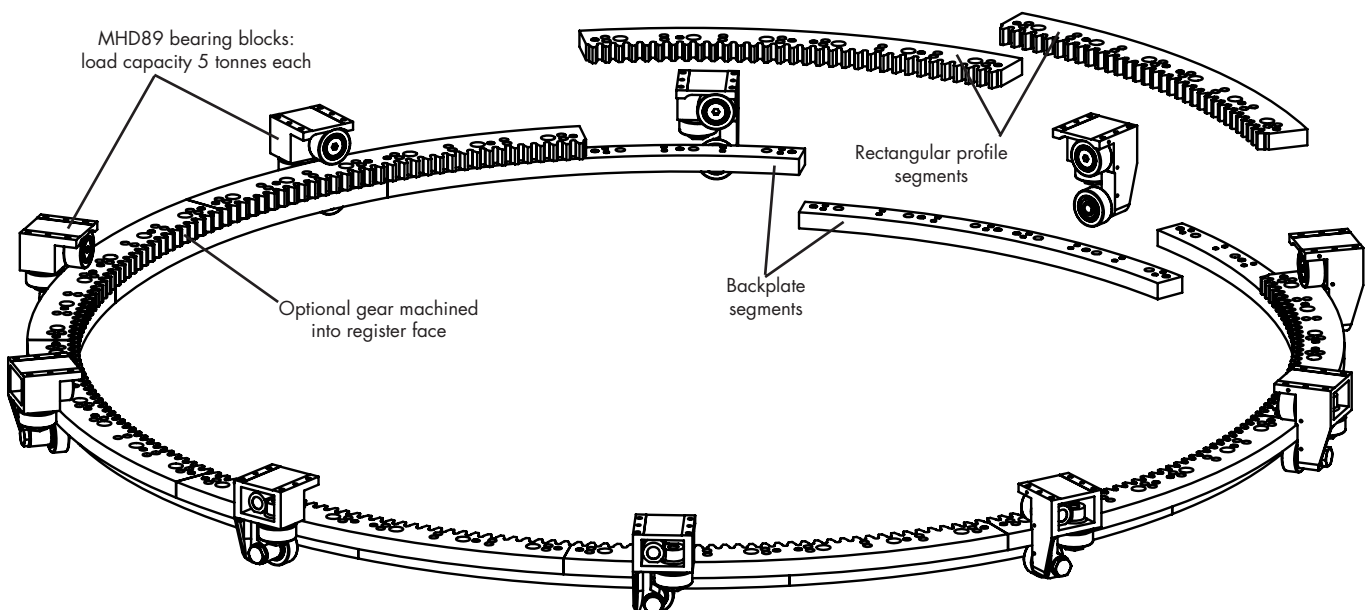
Rings can be made with a rectangular profile, similar to that of the HepcoMotion MHD flat tracks (see MHD catalogue [2](#) available at www.HepcoMotion.com/MHDdatauk). These rings can be used with MHD blocks, including the new stronger MHD144 blocks which include $\text{\O}144$ track rollers with a load capacity of 8 tonnes each. The rings can also be used with track rollers from the HepcoMotion HDS2 range (see HDS2 catalogue [20-21](#) available at www.HepcoMotion.com/HDSdatauk). Using these components, system load capacities of over 30 tonnes are possible.

Rings up to 1800mm in diameter will usually be made in one piece. These will be hardened and ground on all surfaces, if required. Gearcut, stainless steel and corrosion resistant versions are all available.



Rings over 1800mm in diameter are made in segments, and are usually assembled with matched backplates, using the staggered joint construction shown below. Segments are hardened and precision machined on all load bearing surfaces. Stainless steel and corrosion resistant versions are available.

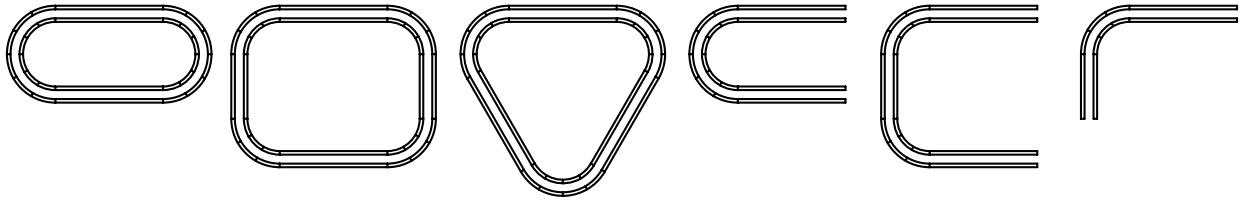
There is no upper limit in the diameter available, but it is usual that rings over 3m in diameter are supplied partially disassembled for ease of transport.



Track Systems

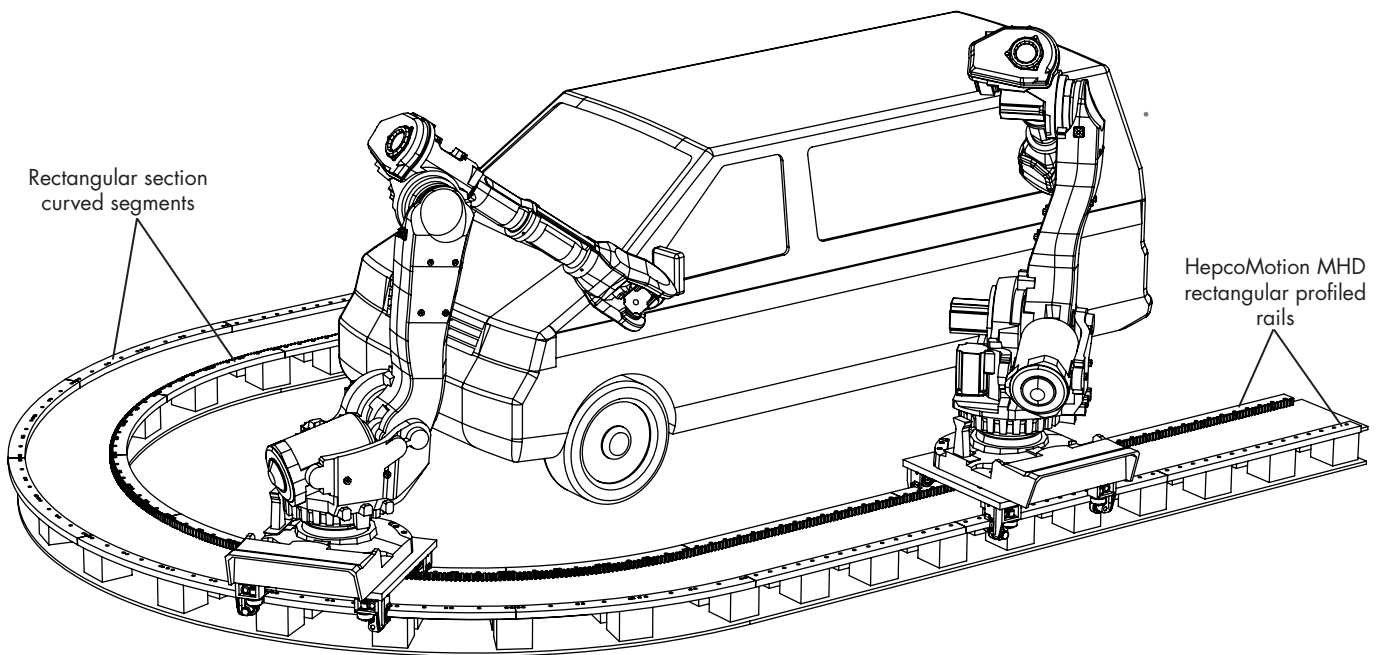
Large radius tracks with rectangular profile rails

Track systems can be constructed with rectangular profile rails and matching segments of a single radius. Such track systems may be open or closed but may not have S bends. Example track shapes are shown below.



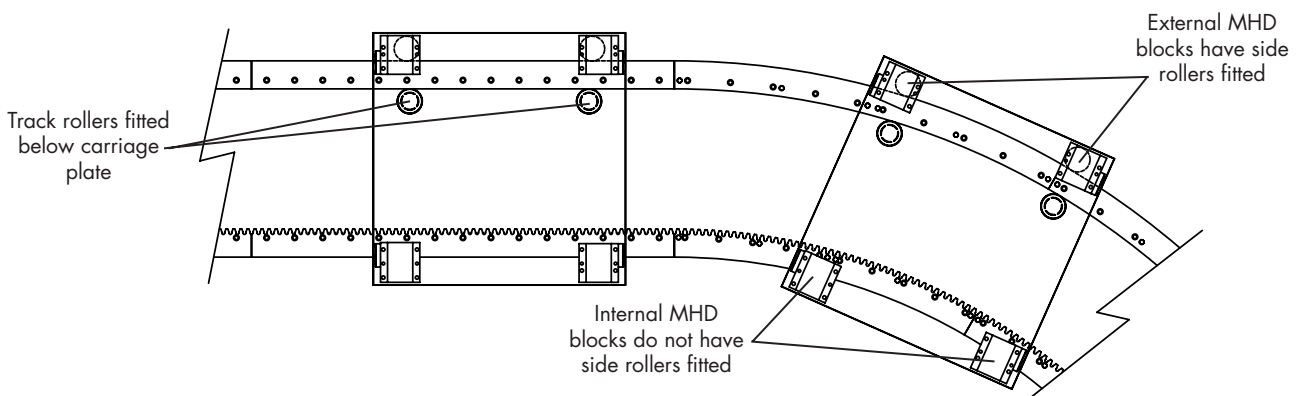
These track systems can be used with MHD blocks, including the new stronger MHD144 blocks which have $\text{Ø}144$ track rollers with a load capacity of 8 tonnes each.

A typical system configuration has concentric tracks spaced apart and mounted on a machined base (which Hepco can supply).



In Track systems of the type shown above, it is common to use a fixed centre carriage of the type shown below. The MHD bearing blocks on the inside of the carriage do not have the side rollers fitted, and an extra pair of track rollers is fitted below the carriage which run on the inside of the outer tracks and segments.

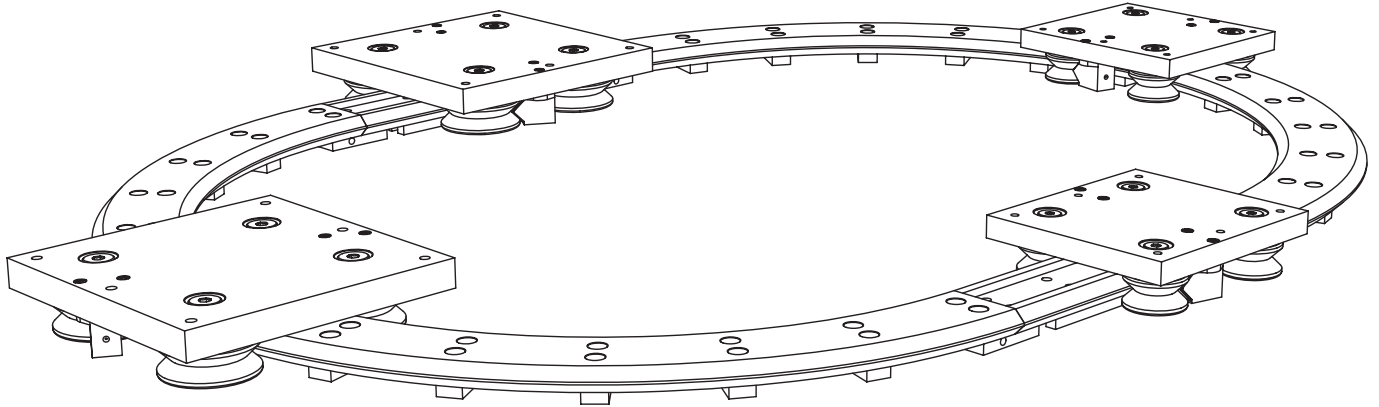
This design feature reduces the carriage clearance which develops between rollers and slides at the straight-to-curve transition to negligible levels, without the need to go for a more complex bogie carriage design.



Track Systems

Large radius tracks with V profiled rails

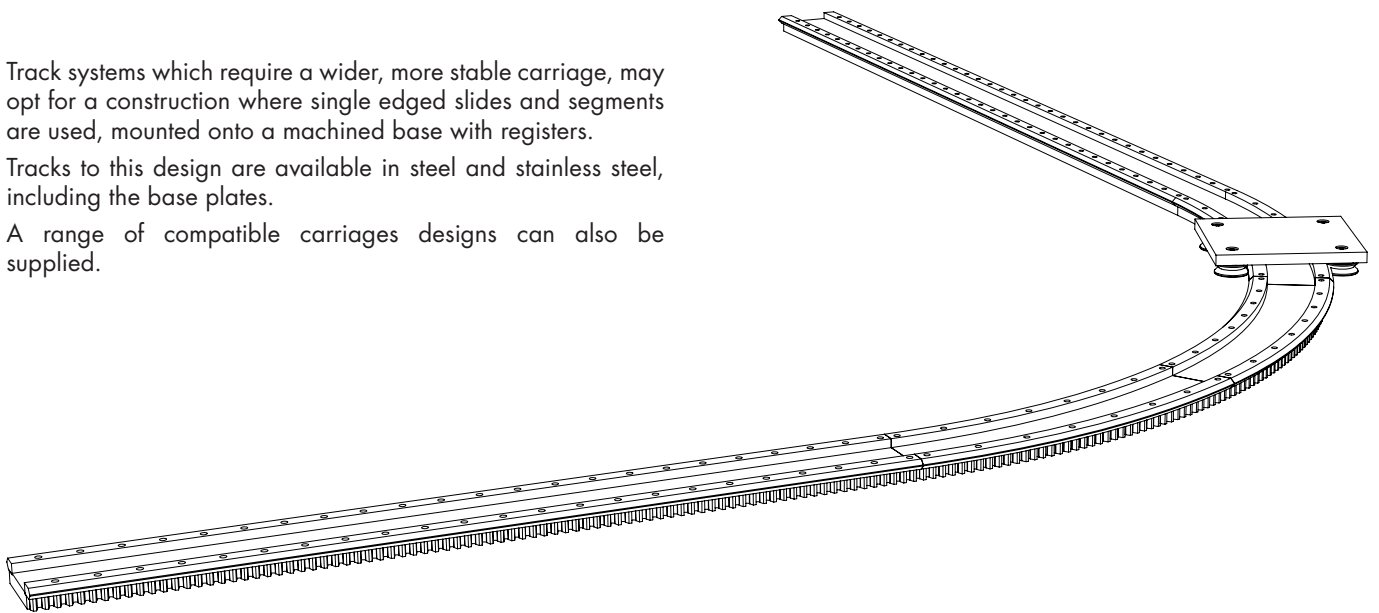
Track systems can be constructed with double edge 90° V profiled segments of a single radius and matching rails. Any bend radius is possible. Section depths of 25 and 33mm match the Hepco range of V bearings. Section widths of up to 200mm work well with this construction. Fixed centre carriages to suit are available.



Track systems which require a wider, more stable carriage, may opt for a construction where single edged slides and segments are used, mounted onto a machined base with registers.

Tracks to this design are available in steel and stainless steel, including the base plates.

A range of compatible carriages designs can also be supplied.



HepcoMotion has an unrivalled range of components, manufacturing methods and design experience to produce rings, segments and track systems.

If you have an application, or wish to know more about large diameter rings, segments and tracks then please contact us.

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