

# Modular design honing machine

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INDUSTRY	PRODUCT	COUNTRY	PROCESS
Honing	HDS2 Heavy Duty Linear Guide	UK	Honing

## Task

The engineers at Apperley Honing have been designing, developing and manufacturing their own brand of TUBEHONE, with the first Apperley horizontal honing machine built back in 1975 and still honing today in the subcontract department.

Constantly improving and developing the design, the Apperley TUBEHONE uses HepcoMotion's world leading products. The latest horizontal hone, has a bespoke design which can be supplied in 2 metre, 4 metre, 6 metre, 8 metre or 10 metre lengths. The revolutionary modular design allows customers to purchase a short stroke machine, which can be retrofitted with extensions at a later date. Apperley required a solution to accommodate the modular chassis design: Hepco's HDS2 fitted the bill perfectly.

## Solution

Hepco's HDS2 beams provide the perfect solution thanks to their availability in modular lengths. The HDS2 beams are accurately machined and ended to make up butted sets – which allows the customer to accommodate different stroke lengths. Hepco's HDS2 joining plate assembly holes ensure additional beams can be added with ease. The modular design is particularly beneficial for customers as they can purchase a 2 metre machine which may suit their current demands, work space availability or pricing, but as the business grows they can extend their system to accommodate longer workpieces.

A key consideration for any honing machine is the need for products that can withstand hostile and dirty environments. The by-product of the honing process is an abrasive sludge which contains a mixture of oil, spent abrasive and metal debris. This is where Hepco's HDS2 comes in. Hepco's V guide system effectively addresses the problem of debris entering the sliding mechanisms thanks to its self-cleaning action, ensuring a smooth and accurate hone. Having invented the V guide system nearly 50 years ago, Hepco is well renowned for its V guide technology and the many benefits it offers.

Apperley Honing TUBEHONE also use a special 840mm long HDS2 carriage to provide the necessary platform area to mount the motor/gearbox honing head. Additionally, 3 x standard HDS2 carriages are used, each with 12 x M10 tapped holes for the piano stools to support the 8 metre long honing shaft. The HDS2 solution meets the needs of the modular design perfectly. Furthermore, Hepco's HDS2 provides a 'fit and forget' solution with minimum maintenance requirements.

## Scope of Supply

HDS2 assembly, comprising:

- HDS2 beam (HB25-L10500) in 3 x butted sets and 2 single edge slides (CHSS25)
- 1 x special 840mm long HDS2 carriage (SPL-AU12025WCW) providing the necessary platform area for mounting of the motor/gearbox honing head
- 3 x standard HDS2 carriages (SPL-AU6425WCW) each with 12 x M10 tapped holes for the piano stools

## Results

Apperley Honing has enjoyed great success with the Apperley TUBEHONE. In addition to the units already sold, they have an eight metre machine operational at their Cheltenham site for prospective customers to come and see, or to be used for trials. This machine is used by the subcontract honing team on a daily basis since first being built as a 2 metre machine 18 months ago and then extending to 8 metres in January 2015.

Offering customers great flexibility, the ability to extend the system to suit their needs is being well received. The system deals with machine resonance and vibration, and the use of Hepco's HDS2 meets the capacity, rigidity and environmental tolerance requirements of working in dirty and abrasive environments. Easy to set up and run, the slides remain maintenance free.