

High Speed Laser Engraving Application

<https://www.hepcotion.com/case-studies/san-systems-prt2/>

INDUSTRY	PRODUCT	COUNTRY	PROCESS
Printing	PRT2 Precision Ring Guides and Ring Segments	France	Assembly

Task

This French manufacturer of high speed precision printing equipment was faced with a potentially difficult application to laser engrave chip cards at high speed. Given that the transport system to move the cards in position would have to work with no lubrication and process up to 6000 cards an hour there would not be many solutions capable of this task. The one system that would provide the smooth vibration free movement necessary to engrave the cards at high speed was the HepcoMotion PRT2 product.

Solution

An oval shaped track system 1.1 metre straight lengths with segments each end to provide the return guidance. 20 linked carriages each carrying 0.2kg load were continuously driven around the circuit at speeds in excess of 1.5m/s. The miniature track system from the PRT2 range was chosen, not only for space requirements but also the TNMS12 system uses a 4 precision miniature bearings within each carriage offering fine control over the preload setting, essential for a long life in the dry conditions.

Scope of Supply

2 x TNMS12 B1156. 2 x TR12 -93 – 180 deg + 20 x FCC12-93 carriages

Result

A highly efficient machine able to process the 6000 cards required per hour with no rejects from faulty engraving. This can only be achieved with ultra smooth motion with no carriage play, a standard characteristic of the PRT2 system. The need to run systems dry can be particularly demanding but with the 20 carriages set to a light preload and a precision ground track controlled to tight tolerances this was easily achieved.

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