

# Flex M Couplings

FLATBED LASER CUTTERS  
AND ENGRAVERS

## PROBLEM

A UK manufacturer of industrial grade flatbed laser cutters and engravers required precision couplings for use on its line of laser systems. The company's machines are globally renowned for their accuracy in all levels of industry, from small architect model makers and education establishments, through large automotive plants.

The OEM's certified Class 1 machines use sealed CO<sub>2</sub> lasers that are water or air cooled. A fine, accurate cutting depth is achieved by software-controlled adjustment of both the cutting speed and the power output of the laser. Closed-loop servo motors and hardened steel rails provide precision movements with up to 2G acceleration.

## SOLUTION

Huco™ Flex M (membrane type) precision couplings were selected to help tolerate and compensate for any slight misalignment in the machines X-axis half drive shafts. "The Huco coupling enables the accuracy of the X-axis to be maintained by its action on the drive shaft," explains the purchasing manager of the manufacturer. "This is imperative to maintain the accuracy of our machines, which is to within 0.025 mm."

Huco's Flex M precision couplings feature thin pressed steel membranes – torque is resolved to simple tensile stresses in opposing segments of the membranes. The couplings have near-infinite life and a dynamically balanced construction which makes them suitable for applications requiring high rotational speed and motion integrity. The manufacturer utilizes the double stage version of the Huco Flex M coupling – two membranes gives even greater misalignment capacity.



## HIGHLIGHTS

- Ideal for highly dynamic position and velocity control systems
- Torque range: 7.97 in.lb. (0.9 Nm) to 100 in.lb. (11.3 Nm)
- Heat treated, spring-quality stainless steel membranes

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