Huco Flex M coupling is a guiding light for CadCam Technology laser cutters and engravers

A technology originating from the 1960's, laser cutting offers a highly precise method to cut and engrave a huge array of materials. One business at the forefront of this technology is CadCam Technology, which provides state-of-the-art laser cutting machines to the automotive, textile, medical, military and education sectors. To ensure the precision of its machines, Huco Flex M couplings are the business' preferred option.

Utilised by many large-scale manufacturing operations, laser cutting relies on a focused laser beam directed at a material. The laser melts or vaporises the material to achieve cutting or engraving with a quality finish. CadCam Technology can provide machines to precisely cut plastics, fabrics, technical textiles, labels, leather, wood, paper, glass, flooring, foam and vinyl. However, it is an application where the positional accuracy of the laser element is of paramount importance - which is where the Flex M coupling comes in.

As a premium brand of the Altra Industrial Motion Corp., Huco holds a formidable track record in providing high precision couplings stretching back over four decades. Regularly supplying solutions to the food and beverage, oil and gas, mobility, motion control, medical and electric vehicle sectors - precision and reliability are in the DNA of the Huco couplings range.

The thin pressed, heat treated steel membranes allow the Flex M to help tolerate and compensate for any slight misalignment, with torque resolved to simple tensile stresses in opposing segments of the membranes. With the double stage version specified by CadCam Technology, the two membranes provide even greater misalignment capacity. This effectively insulates the laser element from any transmitted stresses the shaft may produce, maintaining a precise cut during operation.

This is highly advantageous, as the Huco coupling enables the accuracy of the X-axis (the axis on which the laser moves) to be maintained by its action on the driveshaft. This helps to maintain the accuracy of the machines, which is within 0.025mm.

Huco's Flex M coupling sees use on CadCam Technology's certified Class 1 machines which use water- or air-cooled CO2 lasers. Software controls the adjustment of both cutting speed and laser power output, which results in a fine, highly accurate depth of cut. In addition, closed-loop servo motors and hardened steel rails combine to provide precision movements with up to 2G of acceleration.

High speed operation is supported by the Flex M's dynamically balanced construction, which provides a maximum speed of up to 5,000 rpm. Torque range extends from 0.9 Nm to 11.3 Nm. The coupling's excellent kinematic properties and its low bearing loads ensure that it places minimal stress on associated equipment, safeguarding overall service life of associated equipment. These characteristics mean the Flex M is ideal for highly dynamic position and velocity control systems, making it a popular choice in precision applications across the engineering spectrum.

Laser cutters and engravers in manufacturing operations are also expected to be highly productive as well as precise, a factor which the Flex M addresses with its exceptional service life, ensuring that maintenance work is minimised. An operating temperature range of between -40°C to 120°C means that the coupling can operate in any production environment.

For a business such as CadCam Technology, reputation is tied to ensuring repeatable accuracy. Utilising components such as the Flex M coupling helps to ensure this reputation is upheld in any industry the business' laser cutting and engraving machines operate in. In this case, the Flex M can claim to be a real guiding light.

Image Captions:

Image 1: The Flex M is ideal for highly dynamic position and velocity control systems, making it a popular choice in precision applications.

Image 2-3: Huco's Flex M coupling sees use on CadCam Technology's certified Class 1 machines which use water- or air-cooled CO2 lasers.

About Huco

With more than 50 years of innovation, Huco Dynatork is recognised as a world leader in precision coupling and piston air motor technologies. Backed by extensive application experience, utilising the most advanced materials, Huco Dynatork designs and manufactures innovative power transmission solutions that meet the most demanding customer requirements. Huco Dynatork manufactures a comprehensive range of precision coupling types including beam, Oldham, Uni-Lat, bellows, rigid, flex membrane, jaw and double loop. A full line of highly efficient piston air motors and air motor/worm gearbox assemblies is also offered. Reliable Huco Dynatork products can be found in a variety of key markets including food processing, energy, textiles, medical, packaging, metals, machine tools and material handling on applications such as stepper & servo drives, dynamometers, scanners, pumps, fans & blowers, mixers, conveyors and compressors.

Editor Contact

DMA Europa Ltd. : Philip Howe

Tel: +44 (0)1562 751436
Fax: +44 (0)1562 748315
Web: www.dmaeuropa.com
Email: philip@dmaeuropa.com

Company Contact

Huco Dynatork : Marie Kerdoncuff

Tel: +33 (0)6 83 99 84 08
Web: www.huco.com
Email: marie.kerdoncuff@altramotion.com