

ITALSENSOR ENCODERS RELY ON HUCO TO COUPLE ACCURACY WITH FLEXIBILITY

Rotary encoders provide precise digital data measurements regarding the motion or position of a shaft. Measuring motion or position relies on a consistent level of precision, a responsibility that partly falls on the coupling attached to the encoder. For this highly demanding application, Italsensor, a leading manufacturer of encoders in Turin, relies on Huco Flex P double-loop couplings to safeguard encoder precision and reliability.

Encoders are sensitive, as they must provide highly accurate data to plant operators. The device must be able to record any change in rotations per minute (RPM) as well as stops and starts. While precision is undoubtedly important, the sensitivity of encoders means they require protection from wear – so flexibility must play a part in the powertrain too.

Vibrations from the powertrain must be absorbed by the coupling to protect the precise bearings present within the encoder. Any misalignment can place increased loads upon this bearing, as well as cause additional problems such as increased heat and noise. This not only damages the accuracy of the encoder, but also shortens its service life. An equilibrium between flexibility and precision must be found.

Huco, a leading brand of Altra Industrial Motion Corp., has built a reputation in precision coupling design and manufacture that stretches over four decades. This inherent know-how has been injected into the design of the Flex P double-loop coupling, which delivers a combination of precision and flexibility that meets Italsensor's multitude of requirements.

Italsensor regularly supplies custom and standard rotary encoders to global customers operating in industries such as textile, packaging, printing, elevator, woodworking, plastic, medical, food, agriculture, renewable energy, construction, aerospace and defence. With encoders operating in challenging application environments featuring shocks, vibrations, temperature fluctuations, moisture and dirt – associated couplings must be up to the task.

The Flex P uses a moulded plastic element permanently swaged to a steel hub, which delivers exceptional flexibility with regards to radial, angular and axial misalignment. This ensures that vibrations caused by misalignment are effectively negated before they cause additional wear to the encoder, while also eliminating friction and noise. Compact design ensures that the coupling has low inertia requirements, lowering power demands on the drivetrain. Speeds of up to 3,000 RPM are supported, with peak torque in the Flex P's largest size reaching 18 Nm, ideal for transmitting rotation in small drives.

In response to challenging application environments, the Flex P can operate in temperatures between -40°C and 100°C, while also offering outstanding resistance to acids, alkalis, solvents, oils, greases and ozone. The option of stainless-steel hubs provides support for users in hygienic industries, but both this and standard steel options feature zinc plating for greater chemical resistance. Furthermore, the double-loop moulded element itself is manufactured from Hytrel® thermoplastic elastomer, which offers flex in a multitude of directions while delivering an exceptional service life. Chemical and heat resistance are other inherent features of the material.

Ultimately, this blend of durability, precision and flexibility ensures that Italsensor's rotary encoders can operate for longer. The durable nature of the Flex P ensures reduced maintenance requirements, while its flexibility also safeguards the inherent accuracy of the device by absorbing any shock. This ensures maximum encoder uptime, a key concern for Italsensor which counts a multitude of global OEMs among its customers.

This joint focus on reliability and quality has built a successful business collaboration between Italsensor and Huco. Italsensor specifies Huco couplings as standard on all of its angular and rotary encoders, both magnetic and optical. Leaning on the extensive Huco precision coupling range, which offers other encoder suitable couplings, differing combinations of flexibility and precision can be specified to meet all encoder application requirements.

Like the component itself, when meeting a multitude of precision application requirements for a high-profile customer, it pays to deliver with accuracy and flexibility.

Image Captions:

Image 1: The Flex P double-loop coupling delivers a combination of precision and flexibility that meets Italsensor's multitude of requirements.

Image 2: Measuring motion or position relies on a consistent level of precision, a responsibility that partly falls on the coupling attached to the encoder.

(Source: AdobeStock – Kadmy)

About Huco

With more than 40 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.

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