

Press Release

GEFRAN PRESENTS HYPERWAVE, THE NEW CONTACTLESS MAGNETOSTRICTIVE POSITION TRANSDUCER

The ideal solution for applications where maximum precision and repeatability of the measurement is required

Gefran - Italian multinational company specialized in the design and production of automation components and industrial process control systems - **launches the new magnetostrictive position transducer HYPERWAVE at Hannover Messe (Hall 23, Stand B19)**, scheduled from 1 to 5 April. The exhibition is an ideal opportunity to present the complete range of Gefran contactless position transducers to a vast international audience in the automation sector.

Mauro Parzani, Gefran Sensors Product Manager states: *"Gefran boasts a consolidated know-how, which is the result of over **50 years of experience** in the development and production of position sensors, with more than **1 million components** installed. The ability to **internally produce the sensing element** of our transducers guarantees accuracy and precision in the measurement while ensuring high **customisation flexibility**". Parzani concludes "Constant investments in R&D together with a close collaboration with the mechanical and electronics departments of the most prestigious Italian universities bolstered **HYPERWAVE's** conception, whose name evokes the operational technology of the magnetostrictive system by means of a sonic wave with excellent performances."*

HYPERWAVE detection system ensures a repeatability of **0.01 mm** (one hundredth of a millimetre) with a very low non-linearity error of **0.01%/FS** and a resolution of less than 0.5 μm , also operating at extreme temperatures from **-30° C to +90° C**. The amplification of the primary element's signal, **15 times greater** than traditional models, makes the contactless transducer immune to the typical industry electromagnetic fields, guaranteeing precise and continuous operation over time. In detail, HYPERWAVE boasts a high tolerance to vibrations (**15g/ 10 ÷ 20,000 Hz**) and to shocks (**100g - 11ms - single strike**). Finally, the waterproof case ensures an **IP67** level of protection, contributing to make this system ideal for use in harsh industrial environments.

No maintenance needed and long working lifetime: these are the strengths of the new Gefran solution compared to traditional measurement systems. By virtue of the magnetostrictive technology, the position is identified by the interaction between two magnetic fields: the first is electrically generated along the entire transducer and it interacts with the second, consisting of a cursor - with a sliding or floating design - equipped with a permanent magnet. The elimination of mechanical contact makes the system nearly **immune to wear**, thus significantly reducing downtimes.

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The complete range consists of two **macro-categories**: **WP** (*Profile Magnetostrictive Position Transducer*) with profile mechanics mounted with brackets directly on the structure to be measured, and **WR** (*Rod-style Magnetostrictive Position Transducer*) with 10 mm rod mechanics in AISI 316L stainless steel, that are mainly installed inside hydraulic cylinders with operating pressures up to 350 bar, to detect the position of the piston in real time. Transducers with **WR** rods can also be used as tank level meters, thanks to the magnetic float cursor. Both categories are available in **three different options**: **General**, with stroke up to 1,500 mm, **Plus** up to 2,500 mm and **Advanced** up to 4,000 mm. In addition, Gefran offers special versions: MK4-C and MK4-P can simultaneously detect up to 4 independent positions on the same transducer through a microprocessor used to detect the position of the different cursors and to operate a self-diagnosis of the transducer itself. The available outputs are **analogue** current/voltage, **SSI** and the **main fieldbuses**, such as Profinet, Profibus and CANopen, with a position update rate of **1kHz**, i.e. over 1,000 times per second, for the best precision and a **maximum level of repeatability**.

Edoardo Zilioli, Gefran Sensors Product Marketing Manager comments: "*HYPERWAVE is the new name for excellence in magnetostrictive technology. Thanks to its precision, reliability, robust and compact design, this solution can be used in various **fields of application**, including **injection moulding, robotics, hydraulic presses, foundries, die-casting and wind generators***". He concludes: "*With this high-performance range of industrial sensors, Gefran confirms its commitment towards continuous product innovation. A Company whose core feature is being a **one stop supplier**, able to collaborate closely with OEMs and System integrators for customised systems based on individual needs.*"

Gefran

The Gefran Group operates directly in the main international markets, through sales branches in Italy, France, Germany, Switzerland, the UK, Belgium, Spain, Turkey, the US, Brazil, China, Singapore and India, and through manufacturing branches also in Germany, Switzerland, Brazil, the US and China.

The Gefran Group currently has more than 700 employees. The key factors behind Gefran's success are specialist know-how, design and production flexibility, capacity for innovation and the quality of its processes and products.

With total control of process technology and application know-how, Gefran creates instruments and integrated systems for specific applications in various industrial sectors, including plastics processing, food, pharmaceuticals, and packaging and diecasting machines.

Gefran is listed in the STAR (high performance stock) segment of the Italian Stock Exchange, and joined the ALL STAR segment on 31 January 2005, which became FTSE Italia STAR on 1 June 2009.

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