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**Renishaw launches longer-length FORTiS™ encoder scales**

Renishaw, the global metrology specialist, now offers longer sealed encoder scale lengths to support the development of large machine tools.

Customers can choose FORTiS™ enclosed encoder linear scales as long as 4.24 m for their largest and most innovative machine applications.

Applications for new longer-length FORTiS encoders include machine tools for making moulds and dies for large casting applications, vertical turning lathes (VTLs) and large gantry type machines.

Giga casting, also known as mega casting, is an aluminium die casting technology that is being used by the automotive industry for casting large components, such as chassis modules which would traditionally be assembled from multiple stamped steel parts welded together. In this application, a molten aluminium alloy is forced under high pressure into a reusable mould (die). The casting is then cooled until it solidifies.

Large CNC machines are used at multiple stages throughout the commissioning, maintenance and ongoing operation of the mega casting process. One stage is the production of dies for the giga press, which requires accurate, high-precision machining, with a particular focus on process stability. Longer FORTiS enclosed encoder scales can help to optimise the performance of these large machine tools.

VTLs handle massive workpieces, often several metres in diameter. Precision motion control and closed-loop position feedback is important when creating intricate contours or critical features that require multiple motion axes to be carefully interpolated together. Longer FORTiS encoder scales are particularly valuable for dual ram systems as both turning heads can use the same scale, which simplifies mechanical design and improves machining quality.

With customers increasing their requirements for higher precision whilst controlling costs, the FORTiS linear encoder meets these demands due to its high performance and durability.

**About FORTiS enclosed encoders**

The innovative FORTiS enclosed linear absolute encoder series is designed for use in harsh environments such as machine tools.

The FORTiS encoder design is built upon Renishaw’s industry-proven RESOLUTE™ encoder technology and provides high resistance to the ingress of liquids and solid debris contaminants. It features an extruded enclosure with longitudinally attached interlocking lip seals and sealed end caps. The readhead body is joined to a sealed optical unit by a blade, which travels through the DuraSeal™ lip seals along the length of the encoder.

Linear axis movement causes the readhead and optics to traverse the encoder's absolute scale (which is fixed to the inside of the enclosure), without mechanical contact.

Customers can choose from two different extrusion profiles to suit their space requirements. The FORTiS-S™ linear encoder is the standard-sized encoder, available with measuring lengths from 140 mm to 4240 mm and is installed directly to a machined surface via flexure holes in the extrusion's body.

The FORTiS-N™ encoder, available with measuring lengths from 70 mm to 2040 mm, features a narrower cross-section extrusion and a more compact readhead to enable installations in confined spaces. This model can be mounted directly to a machined surface via two end cap mounting holes or a mounting spar for greater rigidity.

Renishaw FORTiS absolute encoder systems have CE approval and are manufactured in-house using strict quality-controlled processes that are certified to ISO 9001:2015 and backed by a global sales and support network.

Please contact your local Renishaw sales representative to discuss how the FORTiS absolute encoder series can help solve your metrology challenges.

For more information, visit: [www.renishaw.com/FORTiS](http://www.renishaw.com/FORTiS)

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