

Non-contact...

Non-repeatable errors are a particular concern in an angular motion system because they cannot be compensated for. The non-contact, modular RESM is rigidly locked to the machine's rotor, eliminating coupling losses, oscillation, shaft torsion and other hysteresis errors that plague sealed encoders.

The dynamically responsive RESM provides a system repeatability that cannot be matched by any sealed encoder – the best case bi-directional system repeatability of the RESM is 0.02 arc second.*



*On a 417 mm RESM read by an SR readhead and Si1000 interface

RENISHAW
apply innovation™



FANUC serial output
direct from the **siGNUM**
interface



Dynamic signal control
ensures ultra-low cyclic
error ($< \pm 30$ nm SDE)



Comprehensive **siGNUM**
software for ease of
installation and real-time
diagnostics



L - 9517 - 9241

For worldwide contact details, please visit our
main website at www.renishaw.com/contact

Part no: L-9517-9241-01-B

RENISHAW
apply innovation™

Redefine your machine's performance...



siGNUM™ optical
angle encoders -
FANUC serial

The **siGNUM**™ angle encoder, recognised as the encoder of choice for precision machine tool applications, is now available with FANUC serial output.

- **FANUC serial output** direct from the **siGNUM**™ interface.
- Sealed to **IP64** - 'recoverable readhead'
- Ultra low cyclic error; **±30nm SDE**
- **High immunity** to dirt, water, oil and dust
- Designed for **high shock / vibration** environments
- Capable of operation up to **85°C** and **4,500 rev/min**
- Graduation **accuracy to ±0.5 arc second**
- Available in diameters of **52mm, 104mm, 209mm** and **417mm**
- **IN-TRAC**™ auto-phase, optical reference mark, repeatable - over entire temperature and speed specification
- **Non-contact** optical performance
- Up to **60 m cable length** and **NEW!** IP68 in-line connector option



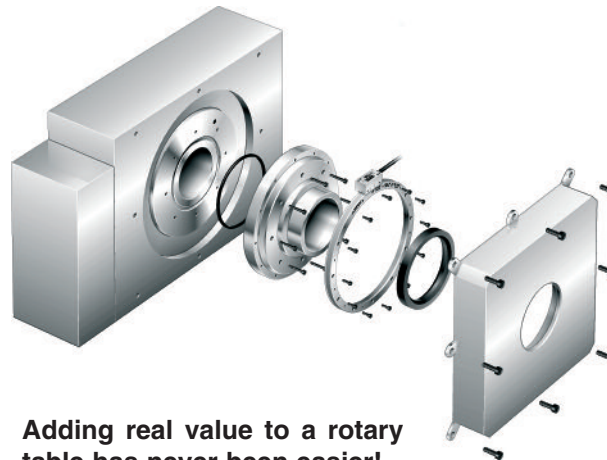
The lowest sub-divisional error in its class

Improve the surface finish capability of your machine...

In a direct-drive axis, the dynamic performance of the encoder directly affects the quality of a machined workpiece surface. **siGNUM**™ offers exceptional signal purity, to give the lowest sub-divisional error (SDE) of any encoder in its class. On a 206 mm diameter system, **the SDE is ±0.06 arc second**. Compare that to the encoder you're currently using!

Cost-effective rotary table performance upgrades...

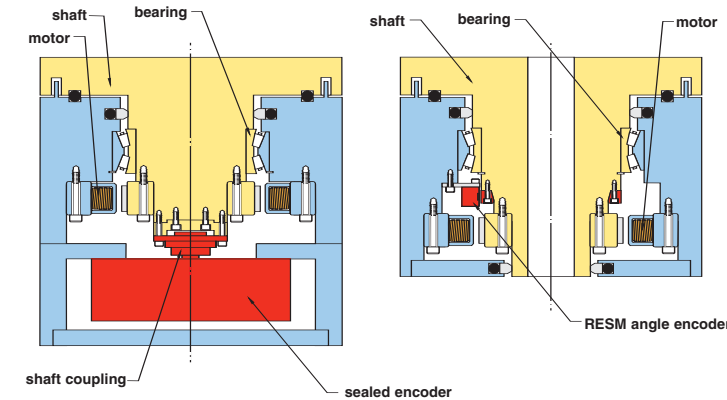
Direct encoder feedback on a rotary table significantly improves performance but it has always been an expensive custom product modification - until now. The total axial length of **siGNUM**™ is only 16.5 mm, so it can easily be bolted directly to the rear of the table's rotor. Direct encoder feedback can become a simple modular option and you won't even lose the table's through-hole.



Adding real value to a rotary table has never been easier!

Form factor...

The RESM features an ultra-low section and a large internal diameter, perfect for routing cables and pneumatic supplies. The patented taper mount utilises this form to minimise installation errors and simplify integration.



Mounting the ring directly and close to the rotating stage ensures a compact table design and optimum servo control with zero coupling losses.

High speed and high resolution...

siGNUM™'s maximum speed can readily be exploited using FANUC's serial protocol. **siGNUM**™ offers a maximum resolution of 0.000005° and a maximum operating speed of 4,500 rev/min. Furthermore, the non-contact RESM operates without friction or wear ensuring excellent reliability.

For further information, please visit www.renishaw.com/RESM