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**New system greatly extends flexibility and ease for rotary axis calibration**

EMO 2011 saw the launch of a successor to Renishaw’s well established RX10 rotary axis calibrator which has been making high accuracy, high repeatability rotary axis performance assessment a possibility for over 15 years. The XR20-W is a completely new design that offers increased flexibility, ease-of-use and speed, plus the benefits of fully wireless operation.

The XR20-W rotary axis calibrator features unique Renishaw developed bearing and encoder technology as well as Bluetooth® wireless technology. This design has enabled Renishaw to greatly reduce the size and weight of the XR20-W compared to the outgoing RX10. At just over 1kg the new unit has achieved that goal, which has enormous advantages for ease of use and applications flexibility.

A separate mounting base enables simple, fast and easy centration and fixing, whilst adapters supplied with the main unit allow fitment to a variety of rotary tables and axes, including lathe chucks and spindles. The XR20-W rotary axis calibrator includes ‘built in’ retro-reflectors, with separate alignment targets on the reverse side of the retro-reflector housing. Together these features ensure faster set-up and minimise alignment errors that can lead to measurement errors.

The new unit is powered by rechargeable batteries which, together with the Bluetooth® wireless technology, allow fully wireless operation. The final key to ease of use and speed of testing is the totally new software (supplied as part of the kit) which enables fast test set-up and data collection. The software uses new screen layouts and graphics as well as preset templates for the most common ISO and ASME tests and simplified on screen options. Together with an ‘auto calibration’ facility even less experienced users should be up and running very quickly.

The XR20-W kit is supplied in a robust Peli™ system case, which includes spaces for the most popular accessories. Even including the case the whole system weighs in at under 7kgs, making it easily transportable. Performance is rated at 1 arc second, with all units being fully calibrated and certified before shipment.

At launch the XR20-W rotary axis calibrator is compatible with Renishaw’s XL-80 laser system. Compatibility with USB versions of Renishaw’s ML10 laser system will be available shortly (and offered as a free upgrade on request to existing XR20-W users.

Despite the many additional benefits, pricing for the new system is comparable to the outgoing RX10 system and furthermore, upgrade discounts are also available to existing RX10 users, giving a very competitive price, especially if users are already considering the cost of an upcoming recalibration or service for their existing RX10 rotary calibrator. Service providers will also benefit from the potential to increase profitability, with smaller dimensions allowing for easier and less costly shipping, whilst the flexibility and speed of use means that potentially they can check more, and different configurations of, machines more quickly.

End users will also benefit from the ease of use and flexibility of the system as in many cases this will support the decision to purchase their own systems. .

All XR20-Ws are supplied with a 3 year warranty which gives purchasers certainty as to their operating costs.

For further information go to [www.renishaw.com/XR20](http://www.renishaw.com/XR20)

**Background**

Determining a machine tool's capabilities before machining and subsequent post-process part inspection can greatly reduce the possibility of scrap and machine downtime; resulting in lower manufacturing costs.

Early error detection with the XR20-W rotary axis calibrator permits optimum machine performance to be achieved, a fundamental foundation for any subsequent machining process. The information can also be used to establish performance trends and efficiently schedule maintenance and repairs.

There has been a rapid development in the use of widely recognised quality system standards, e.g. ISO 9000 and the implementation of 'Six Sigma' programs. These give rise to a need to define and measure process capability factors. Along with other measurement and verification solutions from Renishaw (XL-80 laser interferometer, QC20-W wireless ballbar and AxiSet Check-Up) XR20-W offers a practical solution to these needs.

With thousands of these products (and their predecessors) in use by machine tool manufacturers and their distributors, end users, and service and maintenance companies worldwide, Renishaw is committed to supporting and extending the products and services it offers to these, ensuring that Renishaw’s leadership in this area will be extended.

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