

Renishaw QC20-W ballbar; new wireless product with volumetric testing capability

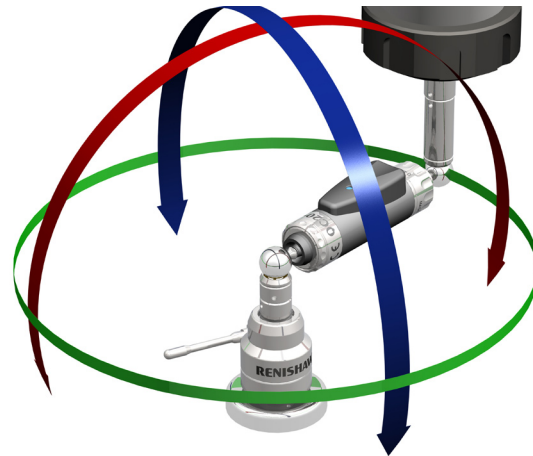
Renishaw has announced the launch of a successor to its well established QC10 ballbar system; a tool adopted worldwide for the assessment of machine tool positioning and servo control performance.

The QC20-W ballbar is a completely new design featuring a Renishaw developed linear sensor and Bluetooth® wireless technology. This design offers benefits in ease of use and enhanced durability and allows the QC20-W to be used for testing even in “closed door” manufacturing, where access for wiring can raise safety and procedural issues.

The new design also allows testing in 3 orthogonal planes through a single reference point. A single, simple hardware set up means quicker testing and the ability to produce a representative volumetric measurement of positioning accuracy. The QC20-W ballbar retains the principle of a simple CNC circular program, and powerful software. Together, these can quickly diagnose and quantify machine positioning errors including, servo mismatch, stick-slip errors, backlash, repeatability, scale mismatch and machine geometry as well as giving an overall circularity error value.

The Ballbar20 system software has been enhanced to give even greater flexibility for testing and reporting. The QC20-W kit is supplied in a redesigned, robust system case, which includes spaces for the most popular accessories. With many thousands of established users of the QC10 system, Renishaw has gone to great lengths to ensure backward compatibility with the QC10 system. This minimises costs and disruption when upgrading or working alongside existing QC10 systems.

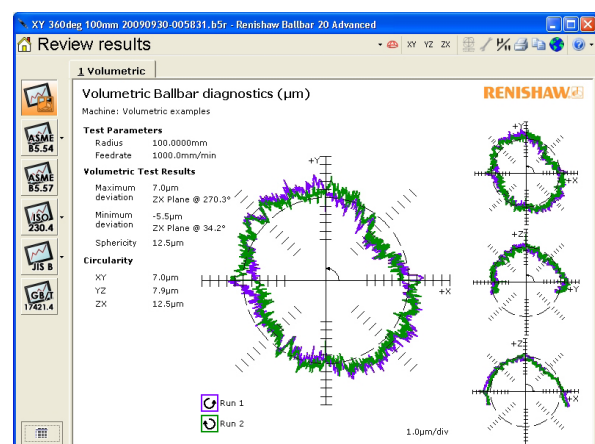
Ballbar lengths are identical to QC10, so all existing test routines can be carried over including test templates, CNC programmes, and work and test procedures. Only minimal training is required when upgrading, focusing on familiarisation with the new features. The Ballbar20 software is also compatible with QC10 systems as the test file format is unchanged. As a result both old and new machine records can be reviewed using the same software.



QC20-W now allows testing of a machine tool in 3 orthogonal planes through a single reference point

An upgrade kit is available to QC10 ballbar users at a very competitive price, especially if users are considering the cost of an upcoming recalibration for their existing QC10 ballbar. The upgrade kit is supplied as standard with an insert for fitting into the current QC10 case, with the new system case and additional hardware required for carrying out the new 3 plane testing available as options.

Over the last 15 years the use of a specialised diagnostic tool, Renishaw's QC10 telescopic ballbar, has gained widespread recognition as the best and most practical method for quickly checking machine tool positioning performance. The new QC20-W ensures that Renishaw's leadership in this area will be extended.



Ballbar 20 software gives greater flexibility for testing and reporting

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.

Many thousands of Renishaw QC10 ballbars are used by machine tool manufacturers, end users, service and maintenance companies and resellers for pre-production tests, predictive maintenance programs, new machine prove-out, machine grading and comparison, and machine checking after "crashes". Indeed, testing with the Renishaw QC10 ballbar is so simple and effective that many users specify a ballbar test before beginning any new batch of components. The Renishaw ballbar has become a vital tool in changing how users world-wide think about machine tool performance verification.

Early error detection with the ballbar permits optimum efficiency in scheduling maintenance and repairs. Besides isolating errors, the ballbar also allows process optimisation. In short, the QC10 ballbar has evolved into far more than just a tool for QA system 'compliance'.

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. A ballbar offers a practical solution to these needs.

The current world economic climate and increasingly open markets mean that the requirement to lower production costs is more urgent than ever. Minimising scrap and rework is top of many production managers' agendas. Repair and maintenance needs to be carried out only when required, reducing direct costs and production losses due to downtime. Renishaw's ballbar software automatically produces a diagnosis from the captured data, enabling non experts to make expert decisions. This is very useful when the availability of sufficient skilled staff is an increasing problem.

The new Renishaw QC20-W ballbar provides an answer to all these problems, with a key element being its ease of implementation and the value of the information it provides.

For further information go to www.renishaw.com/calibration

The Bluetooth word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Renishaw plc is under license. Other trademarks and trade names are those of their respective owners



Performing a QC20-W ballbar test on a CNC machine tool