

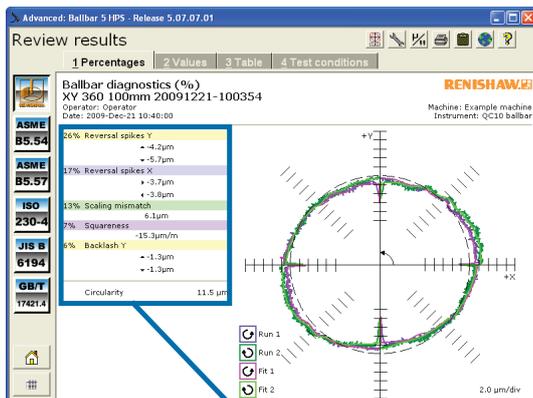
Comparison of Ballbar 5 and Ballbar 20 analysis

Overview

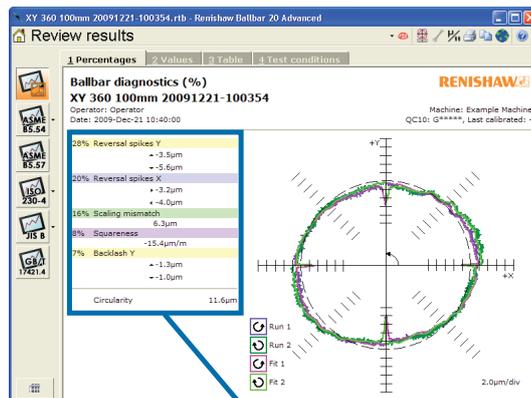
Ballbar testing can be performed using QC10 with both Ballbar 5 and Ballbar 20 software. The algorithms are different in Ballbar 20 software to allow for partial arc analysis, but what are the differences?

During the development of Ballbar 20 software numerous tests were carried out comparing results from both packages. For the errors that were diagnosed the differences between Ballbar 5 and Ballbar 20 were less than the repeatability of any given test.

Below is a typical example of a 360° test analysed with Ballbar 5 and Ballbar 20.



26% Reversal spikes Y	↔ -4.2µm ↔ -5.7µm
17% Reversal spikes X	↔ -3.7µm ↔ -3.8µm
13% Scaling mismatch	6.1µm
7% Squareness	-15.3µm/m
6% Backlash Y	↔ -1.3µm ↔ -1.3µm
Circularity 11.5 µm	



28% Reversal spikes Y	↔ -3.5µm ↔ -5.6µm
20% Reversal spikes X	↔ -3.2µm ↔ -4.0µm
16% Scaling mismatch	6.3µm
8% Squareness	-15.4µm/m
7% Backlash Y	↔ -1.3µm ↔ -1.0µm
Circularity 11.6 µm	

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