RENISHAW

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Controlling your process with flexible gauging

Q. We have a problem with scrap, how should we use Equator?

A. Scrap can be caused by a variety of factors, including a process that is not capable of producing the part, process drift due to environmental effects or tool wear, and step changes, e.g. due to cutting tool breakage. Equator can be used to monitor the process at an appropriate inspection frequency, highlighting and correcting features outside warning limits, before scrap starts to be produced.

Q. We know our process drifts (tool wear, thermal effects), how can Equator help?

A. Equator's software includes Process Monitor, which plots the measurement history of each feature on the part, automatically adding the next set of gauged data after each part is checked. This enables you to see the change in a process graphically, and set appropriate process warning limits.

Q. Our operators will be checking the process, how could Equator help us?

A. Process Monitor can be set up to highlight a part that is out of tolerance, and also to highlight when a part feature has crossed a lower, warning limit. This can prompt the operator to make process changes before parts go out of tolerance. Process Monitor also includes an instant status monitor of the last gauged part, showing the percentage of tolerance measured for each feature. The operators can then use their own knowledge of the process to correct it, or to involve a production engineer or supervisor.

Q. How many features should we check on the parts?

A. Check the least number of features in order to control the process. If a part has 20 features that are cut using 5 cutting tools, programme Equator to measure the tightest tolerance feature cut with each tool, and update process offsets based on those features. If cutting conditions are equivalent for the other features being cut using the same tool, then the other features will be corrected and controlled accordingly.

Q. We'd like fully automatic lights-out process control, how could Equator do this?

A. Equator gauging data can be used for automatic tool offset updates, based on trends, correcting a proportion of tolerance, and other methods. There are a range of ways in which this functionality can be integrated with an automated cell. Please contact your local Renishaw office for more information.

Q. We use a quality data system (MeasurLink, Q-DAS, QC-CALC etc.), how can we bring Equator data into that?

A. Equator can output its gauged data in various different formats, which can be saved to a networked location. This enables 3rd party quality data software to read and process the data in a familiar way. If you already use one of these systems, then Equator can fit in alongside other existing measuring devices.

For more information visit www.renishaw.com/equator

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