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Renishaw CNC Reporter

Renishaw CNC Reporter is a PC-based statistical analysis package designed to import, interrogate and analyse measurement and inspection data obtained using Renishaw machine tool probing software.

Providing a comparison of actual measured data against nominal values, the package uses colour coding to indicate adherence to tolerance and displays a Pass/Fail outcome at individual feature and component level. Results are provided in both graphical and tabular formats – simply select the view that best suits your quality control requirements.

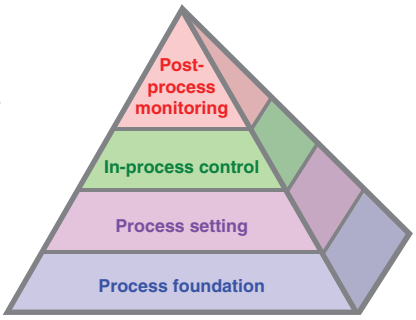
Features and benefits

- Highly visual data display in an easy to understand, configurable, Microsoft Excel format
- Colour-coded reports provide an instant Go/No-go decision
- Feature tracking and capability charts to monitor process variation over time
- Import data from up to 400 components into the same file
- Data Manager application for analysis of large volumes of historical data
- Export data to external statistical process control (SPC) and other packages for additional analysis
- Customisable report templates

Renishaw software solutions for machine tools

Renishaw's Productive Process Pyramid™ provides a framework within which to identify and control variation in manufacturing. This framework, backed by innovative technology, proven methods of incorporating process and an extensive, expert support network, mean Renishaw can make your goal of 'green button' or 'lights out' manufacturing a reality.

The range of workpiece measurement and inspection software packages available from Renishaw provide solutions across all layers of the Productive Process Pyramid from integrated probe qualification, through to tool setting, adaptive machining and reporting.

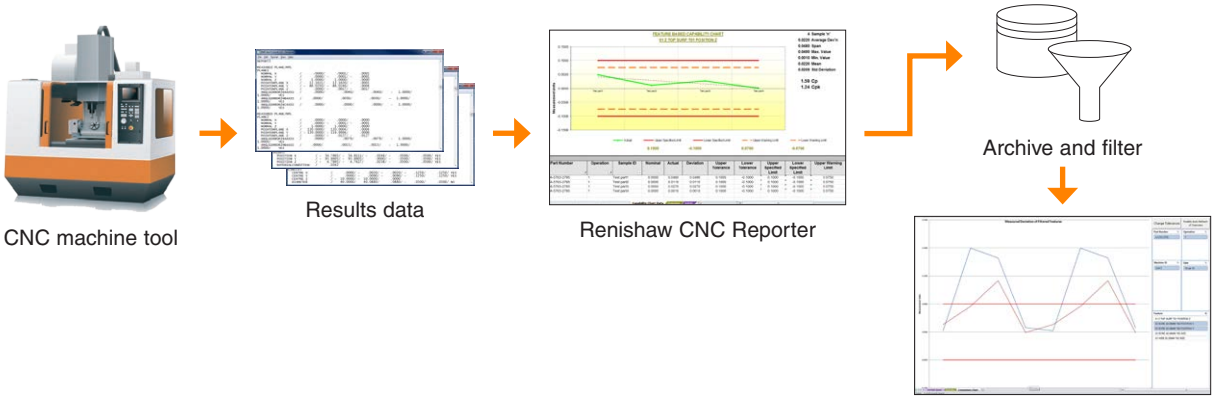


The Productive Process Pyramid™

Renishaw CNC Reporter

Renishaw CNC Reporter, positioned within the post-process monitoring layer of the Pyramid, is a dedicated application for the review and analysis of measurement inspection data obtained using Renishaw machine tool probing software.

The application provides a quick and simple means of displaying actual measurement data against feature tolerance and indicating conformance to tolerance. Review of part deviation over time is also possible, helping to determine machine capability and to schedule preventative maintenance tasks.



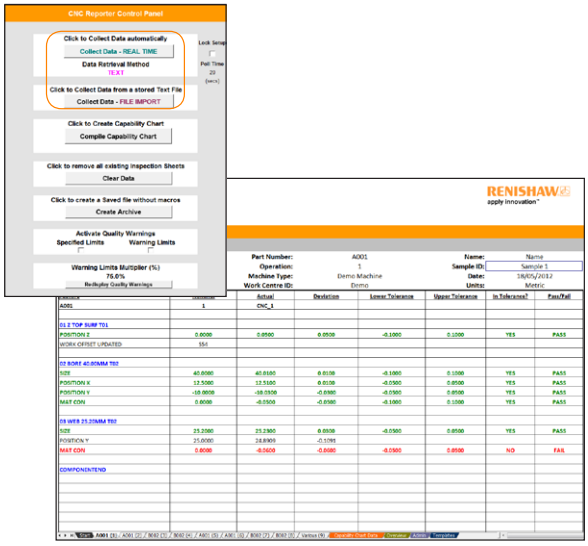
Using Renishaw CNC Reporter

Import data

Two methods of data import are available: 'Collect Data – File Import' and 'Collect Data – Real Time'*. The File Import method imports existing measurement and inspection data from a defined file location, importing all available data in a single step. The Real Time method of data collection periodically accesses a file location to extract newly added measurement data.

Once imported, data is displayed in a series of Probing Inspection Reports – one report for each inspected component.

These reports provide the first opportunity to review component inspection data, displaying nominal dimensions, actual measured data, deviation from nominal and tolerance values, plus a pass/fail indication for each measured feature and overall component.

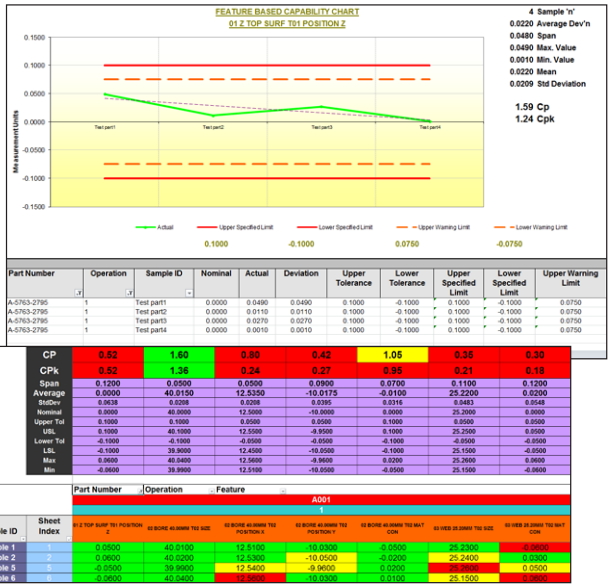


* Due to the differences in machine configuration and data transfer methods, please contact your local Renishaw representative when considering use of the real time data import method in conjunction with Renishaw CNC Reporter.

Review and analyse

Results information can also be viewed graphically via the Capability Chart. This displays the variation of measured values for a single feature across all inspected components, along with tolerance and warning limits. Statistical data – such as mean, range and standard deviation – is also displayed. Filters allow the range of displayed data to be refined, adjusting the feature for which data is displayed, or reducing the number of components in the sample. Statistical data is automatically updated as these filters are applied.

A further visual indication of results is available via the Overview tab. This provides a Red Amber Green (RAG) chart of size and position data along with a range of statistical data. Colour coding of the cells – based on warning and tolerance limits – indicate features which are in tolerance, approaching tolerance and out of tolerance. Again, filters allow displayed data to be refined and statistical data is automatically updated accordingly.



CP	0.62	1.60	0.80	0.42	1.05	0.35	0.30
CPk	0.52	1.36	0.24	0.27	0.95	0.21	0.18
Span	0.1200	0.0500	0.0500	0.0900	0.0700	0.1100	0.1200
Average	0.0000	40.0150	12.5350	-10.0175	-0.0100	25.2200	0.0200
StdDev	0.0638	0.0288	0.0288	0.0395	0.0316	0.0483	0.0548
Nominal	0.0000	40.0000	12.5000	-10.0000	0.0000	25.2000	0.0000
Upper Tol	0.1000	0.1000	0.0500	0.0500	0.1000	0.0500	0.0500
UBL	0.1000	40.1000	12.5500	-9.9500	0.1000	25.2500	0.0500
Lower Tol	-0.1000	-0.1000	-0.0500	-0.0500	-0.1000	-0.0500	-0.0500
LBL	-0.1000	39.9000	12.4500	-10.0500	-0.1000	25.1500	-0.0500
Max	0.0600	40.0400	12.5600	-9.9600	0.0200	25.2600	0.0600
Min	-0.0600	39.9900	12.5100	-10.0300	-0.0500	25.1500	-0.0600

Part Number	Operation	Feature						
		A001						
Sample ID	Sheet Index	01 Z TOP SURF T01 POSITION Z	02 BORE 40.00MM T02 SIZE	02 BORE 40.00MM T02 POSITION X	02 BORE 40.00MM T02 POSITION Y	02 BORE 40.00MM T02 MAT CON	03 WEB 25.00MM T02 SIZE	03 WEB 25.00MM T02 MAT CON
Sample 1	1	0.0500	40.0100	12.5100	-10.0300	-0.0500	25.2300	0.0600
Sample 2	2	0.0600	40.0200	12.5300	-10.0500	-0.0200	25.2400	0.0300
Sample 5	5	-0.0500	39.9900	12.5400	-9.9600	0.0200	25.2600	0.0500
Sample 6	6	-0.0600	40.0400	12.5600	-10.0300	0.0100	25.1500	0.0600

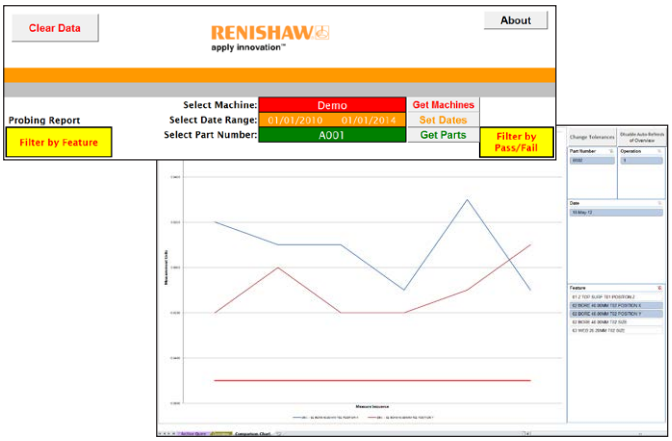
Archive data

Once initially processed, results data can be saved as a workbook archive. This data can then be analysed further using Data Manager, an additional application which automatically installs alongside Renishaw CNC Reporter.

Data selections are made based on the component part number, the CNC machine tool used to capture the original results data, and the date range over which that data was collected.

Display options include Archive Query – the default, tabular display and that used to select and import archive data; an Overview (RAG chart) – using colour-coded cells to indicate adherence to tolerance; and a Comparison Chart – providing graphical representation of measured data for multiple features across multiple components.

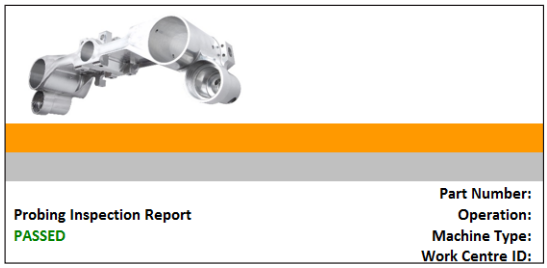
Displayed data can be refined and adjusted using filters and 'feature slicers'.



Customise

When dealing with large volumes of results data, custom templates can be created and used to visually differentiate the automatically generated Probing Inspection Reports. Simply add a component image, drawing or corporate logo to the Probing Inspection Report template.

Renishaw CNC Reporter can then be configured to select and use a specific template for all results data imported from a single file, or to vary the template used dependent on the inspected component.



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Renishaw CNC Reporter

Part number

The part number of the software is **A-4007-1500**. Please quote this part number when ordering.

Supported languages

Renishaw CNC Reporter is available in English only.

Compatibility

Data collection software

Renishaw CNC Reporter is capable of processing measurement and inspection data gathered using applications from the PC-based Productivity+™ software suite (Productivity+™ Active Editor Pro, Productivity™+ GibbsCAM plug-in, Productivity+™ CNC plug-in, and third party software applications incorporating the Productivity+™ API) and the machine resident, macro-based Inspection Plus* package.

* Configuration by Renishaw applications engineers is required before Inspection Plus data can be used in conjunction with Renishaw CNC Reporter.

NOTE: Some CNC machine tool controller platforms which are compatible with these software applications do not support the output of inspection report data and are therefore not compatible with Renishaw CNC Reporter. For further information, or to confirm compatibility of your CNC machine tool control, please contact your local Renishaw representative.

Supported controllers

Measurement and inspection data from most CNC machine tool controllers* that support probing can be processed by Renishaw CNC Reporter, including:

- Fanuc
- Haas
- Heidenhain
- Hitachi Seicos
- Makino
- Mazak
- Mitsubishi
- Mori Seiki
- Okuma
- Siemens
- Yasnac

* Supported controller type is dependent on the data collection software used to gather the measurement and inspection data.

Renishaw CNC Reporter is intended for use with a single CNC machine tool. If there is a requirement to simultaneously import data from multiple machine tools, the equivalent number of seats of Renishaw CNC Reporter are required.

PC specification

Operating system	Microsoft Windows 7 (or later)
Processor	2.0 GHz Intel Core 2 Duo (or equivalent)
Memory	4 GB RAM, 1 GB hard disk space
Other	CD/DVD drive for software installation Microsoft Excel 2007 (or later): Microsoft Excel 2016 recommended

Multiple instances of Renishaw CNC Reporter (a recommended maximum of four) can be run concurrently and displayed on a single screen.

For worldwide contact details, visit www.renishaw.com/contact

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