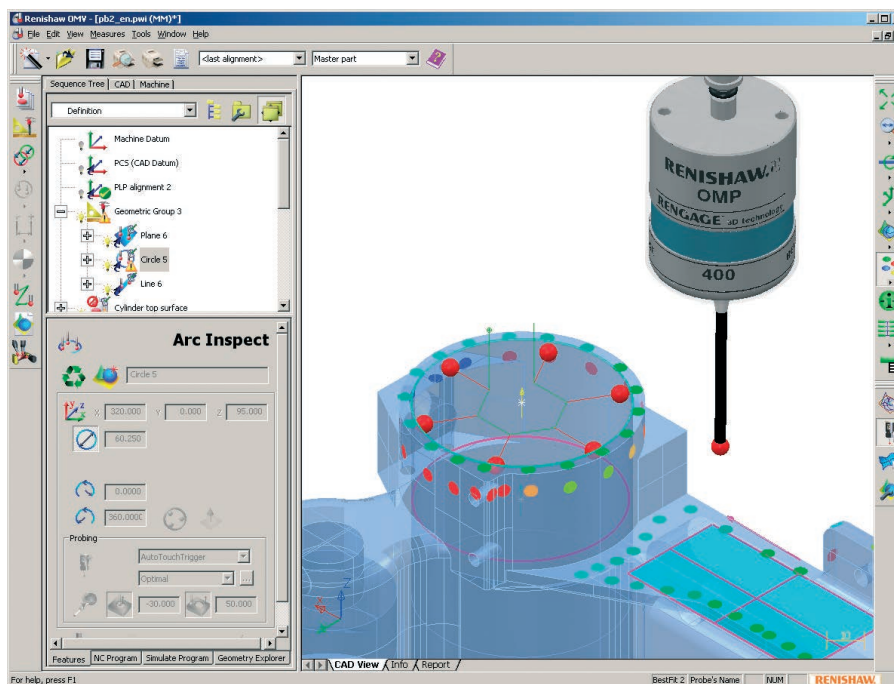


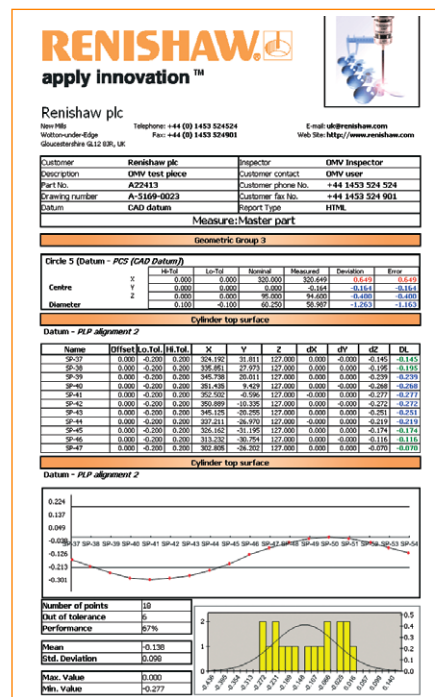
Renishaw OMV on-machine 3D verification software

Renishaw OMV is a Microsoft Windows compatible software package which allows you to automatically check compliance of complex machined parts against the relevant CAD model while still on the machine tool, giving you confidence that the part is correct before it is removed.



System features

- Instant feedback of part conformance
- Multi-axis machine support
- Wide range of supported controllers
- Extensive CAD compatibility
- Choice of alignment options, including best fit
- Off-line, PC based programming
- Geometric feature or freeform surface inspection options
- Configurable graphical and numerical reporting capability
- Probe path simulation
- Protected probe paths
- Database of Renishaw probes and styli
- Simple probe qualification



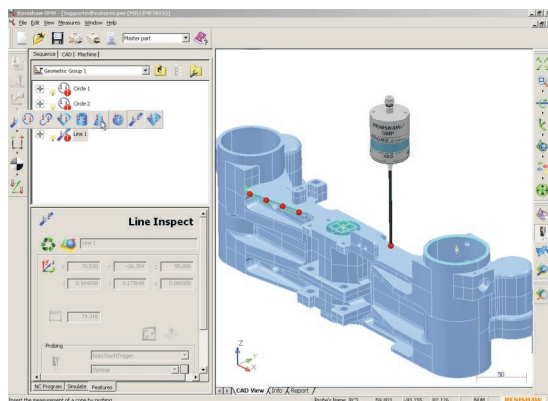
Data sheet

Renishaw OMV: on-machine 3D verification software

Measurement features

Probed features are split into two groups – 2D features and 3D features. Probed features can have their parameters changed allowing customisation of:

- Number of points
- Number of layers
- Start and finish angles
- Standoff, backoff and search distance
- Position of measurement points
- Height of approach and retract plane

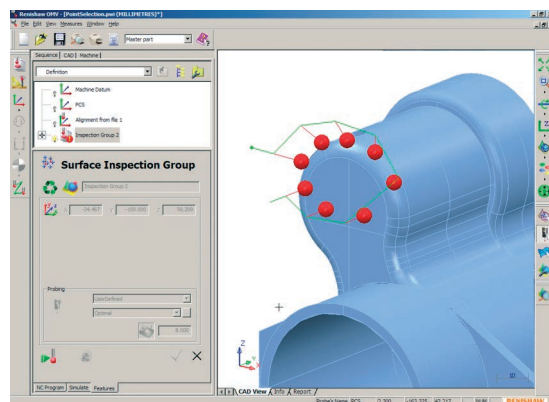


- 2D features
 - Plane – generated from 3+ user-selected points
 - Circle – automatic generation of probe path with 4+ points, or use user-selected points
 - Line – selected using 2+ user-selected points
 - Slot – automatically identified from CAD geometry, or from user-selected points
 - Rectangle – selected from CAD geometry, or from user-selected points
- 3D features
 - Cylinder – selected from CAD geometry, or from user-selected points
 - Cone – selected from CAD geometry, or from user-selected points
 - Sphere – selected from CAD geometry, or from user-selected points
 - Surface inspection – specified points probed using a vector normal to the surface, distance is measured from defined surface along probing line
 - Freeform surfaces

Point selection features

Surface or wireframe geometry is selected directly from the model. Double clicking generates surface points and probing vectors are automatically calculated. The probe paths are displayed as green lines with red spheres depicting the probe touch path. The mouse pointer changes to a hand, allowing adjustment of this path.

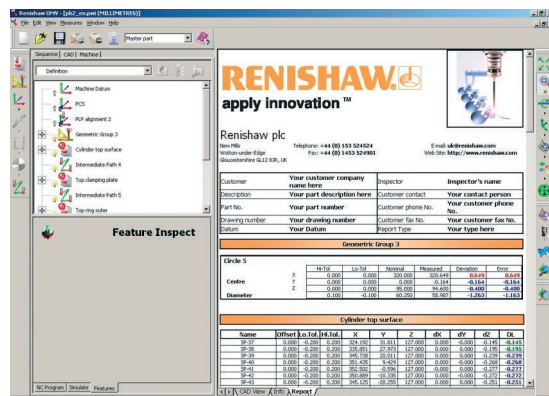
- Point-and-click selection of geometric features and free-form surface points
- Instant generation and visibility of the probe path
- Full control of tool path
- Insertion of intermediate moves



Reporting options

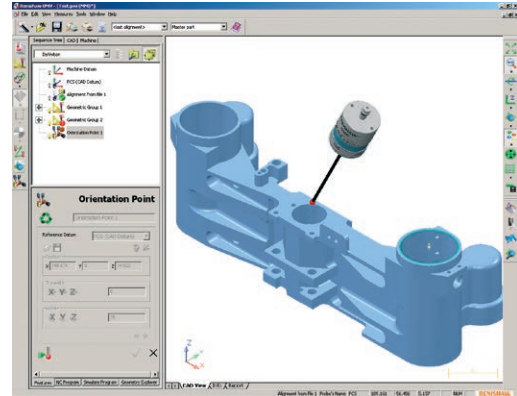
Reporting allows the feature parameters to be toleranced and displayed. Individual elements can be switched off if not required.

- Tabular reporting
 - Fully customisable reports generated using an HTML template
 - Choice of displayed results from geometric features
- Graphical reporting
 - Display of measured values using colour-coded surface confetti points, call-out labels or in-place values
 - Graduated colour scales drawn with point data
 - At-a-glance view of distribution of point deviations on report printouts



Multi-axis support (cost option)

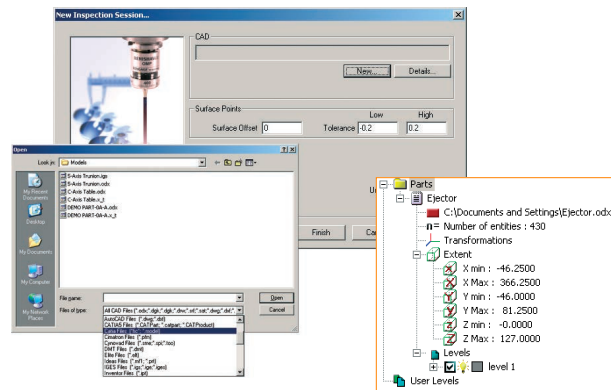
Renishaw OMV incorporates an Orientation Point tool that can be used to translate and rotate probe position with respect to the component model to facilitate the creation of probe routines for multi-axis machine tools with tilting/rotating tables or heads.



Solid models

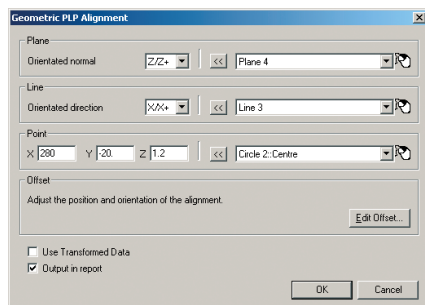
Many types of CAD formats are supported, some as standard, some as cost options. CAD origins can be translated, rotated, or scaled during import. Multiple CAD layers and custom colouring and hiding are supported making programming even easier.

For the full listing of currently available CAD importers, please see www.renishaw.com/omv



Alignment options

Renishaw OMV uses a measured alignment to guarantee accurate measurement results. Once alignment data has been collected, new exported paths will be corrected to fit the part more accurately. Since all the processing is done on the PC, no update of the WCS is required.



- Alignment from file – allows a preset alignment to be loaded, for use in fixturing systems etc.
- Geometric plane-line-point (PLP) alignment – uses geometric features to measure the alignment of the object based around a rough setting of the work co-ordinate system
- Reference point system (RPS) alignment – a series of alignment options that use selected XYZ co-ordinates from a component's geometric features
- Best-fit – uses surface inspection points to produce a least-squares fit to the CAD model

Measurement and datum options

- Distance measurement – allows the distance between two defined points to be measured
 - Results can be output in either direct distance, or co-ordinate based values



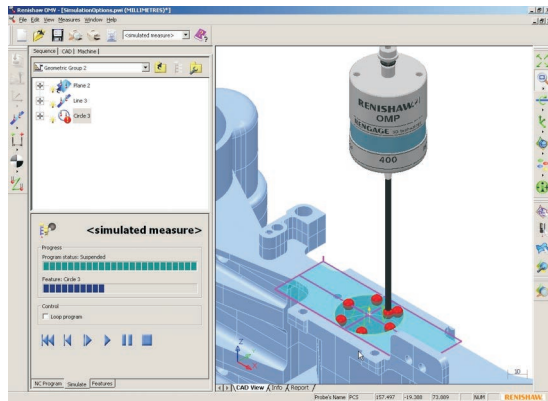
- Datum options – allow information on geometric groups to be output in the verification report, relative to a specific defined point
 - Datum based on a measured plane, line and point
 - Datum based on a given vector offset (shifted datum)
 - Datum based on a given axis rotation (rotated datum)
 - 3D datum shift based on the position of a 3D feature
 - 2D datum shift based on the position of a 2D feature



Data sheet

Renishaw OMV: on-machine 3D verification software

Simulation options



- Simulate the full probe path or individual features
- Translate, zoom and rotate without redrawing
- Choose from the entire catalogue of Renishaw machine tool probes
- Comprehensive stylus catalogue and assembly builder

Recommended probing systems

Renishaw recommends the use of non-lobing probes such as the OMP400, MP700 or RMP600, for the best metrology performance. Use of Renishaw probes that do not contain strain-gauge technology will result in decreased performance. Renishaw does not support the use of non-Renishaw probes with this software.

System requirements

Recommended PC specification	
Operating system	Microsoft Windows 7 (64-bit) or later
Processor	Multiple core 64-bit processor
Memory	4 GB RAM
Graphics card	NVIDIA Quadro 256 MB (or equivalent)
Other	DVD drive for software installation

Please note that due to the constantly changing nature of PC specifications, this information is given as a recommendation only of the system and hardware requirements. In general we recommend a 'CAD ready' PC, i.e. one that is specified as capable of running CAD/CAM software.

For larger CAD files, a faster processor, more RAM and a more powerful graphics cards will provide better performance.

ATI graphics cards such as Radeon and FireGL are not supported.

System components

Probe

The entire range of Renishaw machine tool inspection probes is supported in Renishaw OMV. Renishaw recommends the use of the high accuracy strain gauge OMP400, MP700 or RMP600 which give accurate, repeatable results and reduce calibration times.

OMM (optical machine module)

Transmits CNC message to the probe and receives data signals for transmission to the MI 12.

OMI (optical machine interface)

An alternative to the OMM + MI 12 interface, combining the functions of both OMM and MI 12 in one unit.

PSU3 power supply unit for MI 12 or OMI

Used when a 24 V power supply is not available from the machine.

Communications link

Method of sending and receiving or loading and downloading programs and data.

Software

Renishaw OMV – provides flexibility to customise probing strategies to suit the application.

Maintenance option

Renishaw OMV is covered by a 12 month maintenance agreement from date of order. During this time customers are entitled to free of charge product upgrades and have exclusive access to on-line training and support materials.

To retain these benefits after the initial 12 month period, users should subscribe to Renishaw's software maintenance programme.

Please contact omv.support@renishaw.com for further information.

Supported controllers, CAD formats and languages

Most machine tool controllers that support probing run this software, including:

- Acramatic A2100
- Fanuc
- Fidia*
- Haas
- Heidenhain i530 & 426/430
(controller option required for optimum performance)
- Hitachi Seicos*
- Makino
- Mazak ISO
- MillPlus*
- Mitsubishi Meltas*
- Mori Seiki
- NUM*
- Okuma
- Roeders*
- Selca
- Siemens 810D/840D
- Tosnuc 888*
- Yasnac*

* These post processors are not available ex-stock. For delivery lead times, please contact

omv.support@renishaw.com

Development work to support additional controllers is on-going. For a list of currently supported controllers, see

www.renishaw.com/omv

Renishaw OMV operates with the following CAD formats:

- IGES
- SET
- STEP
- VDA/FS
- ACIS*
- AutoCAD*
- CATIA V5*
- Cimatron*
- Parasolid*
- ProE2000i2*
- ProE2001*
- ProE2001i*
- Rhino*
- SDRC - Ideas*
- Sirona*
- Solid Edge*
- SolidWorks*
- Space Claim*
- Unigraphics*
- WildFire*

* Cost option

Continuous development work means other formats may be available – please contact omv.support@renishaw.com for details.

Renishaw OMV software is supported in the following languages:

- English
- French
- German
- Icelandic
- Italian
- Japanese
- Korean
- Polish
- Portuguese (Brazilian)
- Russian
- Simplified Chinese
- Spanish
- Traditional Chinese

Renishaw OMV probe software for machine tools

Parts list – please quote relevant part number(s) when ordering

Part number	Description
Software	
A-5369-1000	Renishaw OMV software
A-5369-4100	Renishaw OMV multi-axis option†
Software kits	
A-5369-2001	Renishaw OMV – Fanuc post
A-5369-2002	Renishaw OMV – Haas post
A-5369-2003	Renishaw OMV – Siemens post (810D/840D)
A-5369-2004	Renishaw OMV – Heidenhain post (i530, 426/430)
A-5369-2005	Renishaw OMV – Mazak ISO post
A-5369-2006	Renishaw OMV – MillPlus post
A-5369-2007	Renishaw OMV – Mitsubishi Meldas post
A-5369-2008	Renishaw OMV – Mori Seiki post
A-5369-2009	Renishaw OMV – Makino post
A-5369-2010	Renishaw OMV – Yasnac post
A-5369-2011	Renishaw OMV – Hitachi Seicos post
A-5369-2012	Renishaw OMV – Selca post
A-5369-2014	Renishaw OMV – Fidia post
A-5369-2015	Renishaw OMV – Acramatic A2100 post
A-5369-2016	Renishaw OMV – Okuma OSP200 post
A-5369-2020	Renishaw OMV – Roeders post
A-5369-2021	Renishaw OMV – Tosnuc 888 post
A-5369-2022	Renishaw OMV – NUM post
CAD importers	
A-5369-5000	3 or more CAD importers‡
A-5369-5001	Parasolid
A-5369-5002	SDRC Ideas
A-5369-5003	ProE2000i2 and WildFire
A-5369-5007	Solid Edge
A-5369-5008	SolidWorks
A-5369-5009	CATIA V5
A-5369-5010	Cimatron
A-5369-5014	Unigraphics
A-5369-5015	Autodesk Inventor
A-5369-5016	Rhino
A-5369-5017	ACIS
A-5369-5019	Sirona
A-5369-5032	SpaceClaim

Part number	Description
Post processors	
A-5369-3001	Additional Fanuc post
A-5369-3002	Additional Haas post
A-5369-3003	Additional Siemens post (810D/840D)
A-5369-3004	Additional Heidenhain post (i530, 426/430)
A-5369-3005	Additional Mazak ISO post
A-5369-3006	Additional MillPlus post
A-5369-3007	Additional Mitsubishi Meldas post
A-5369-3008	Additional Mori Seiki post
A-5369-3009	Additional Makino post
A-5369-3010	Additional Yasnac post
A-5369-3011	Additional Hitachi Seicos post
A-5369-3012	Additional Selca post
A-5369-3014	Additional Fidia post
A-5369-3015	Additional Acramatic A2100 post
A-5369-3016	Additional Okuma OSP200 post
A-5369-3020	Additional Roeders post
A-5369-3021	Additional Tosnuc 888 post
A-5369-3022	Additional NUM post

† For multi-axis operation, order A-5369-4100 **in addition** to A-5369-1000

‡ This is the most economical option when working with multiple CAD formats, and supports the use of all listed CAD formats

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

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