PG INSPECTION
## TECHNOLOGIES

PG1000 Quick Start Guide

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Disclaimer and Warning

Congratulations on purchasing your new PG1000 cutting tool inspection system. The information in this document affects your safety and your legal rights and responsibilities. Read this document carefully to ensure your safety and the proper configuration before use. Failure to read and follow instructions and warnings in this document may result in serious injury to yourself or others, damage to your PG1000 system, or damage to other objects in the vicinity. This document and all other collateral documents are subject to change at the sole discretion of PG Inspection Technologies. For up-to-date documentation, visit www.pg1000.com and click on the Resources tab.

By using this product, you hereby signify that you have read this disclaimer and warning carefully and that you understand and agree that you are solely responsible for your own conduct while setting up and using the PG1000 system, and for any consequences thereof. PG Inspection Technologies accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the setup or use of the PG1000 system. The user shall observe safe and lawful practices including, but not limited to, those set forth in this document.
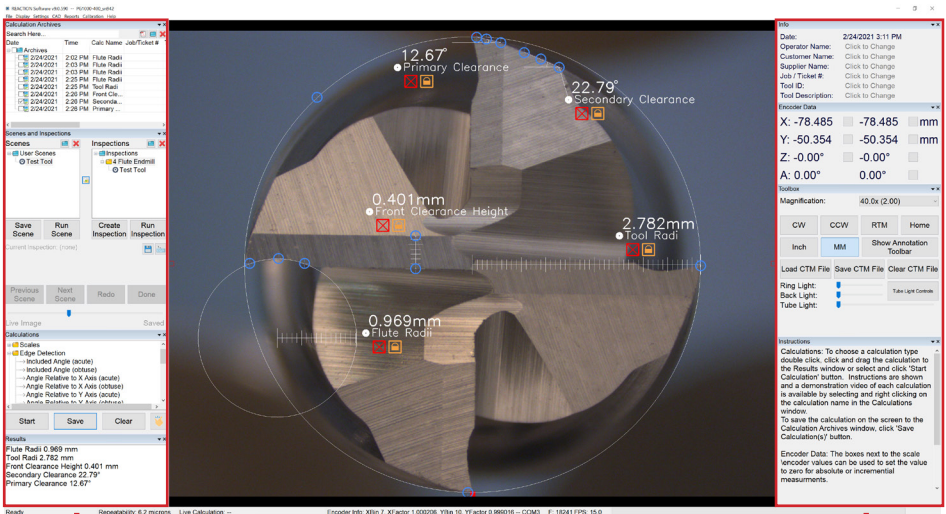
Window Pane Display

1 Available Calculations
50+ measurements to choose from

2 Calculation Instructions
Demo videos also available

3 Calculation Results
Also displayed on tool image

4 Calculation Archives/Reports
Create PDF or Excel reports

5 Scenes and Inspections
Create and save inspection macros

6 Magnification Reading
Auto adjusts on PG1000-400
Manually set on PG1000-200

7 X & Y Axis Encoder Data
Horizontal and vertical location

8 Z Axis Data
Crosshair rotation information

9 A Axis Encoder Data
Base block rotation - PG1000-400 only
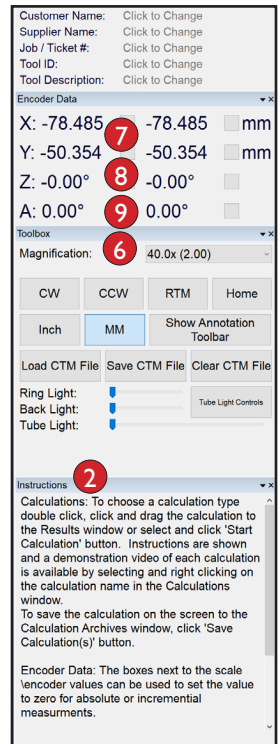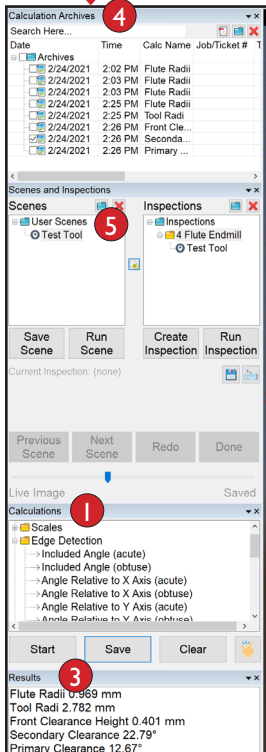
Overview

The PG1000 REACTION software is very user friendly and incorporates on screen prompts, instructions and video demos for each tool calculation. Calculations can be repeated efficiently by recalling previous saved inspection scenes. Annotations/notes can be added alongside measurements. With the click of an icon the software will create a PDF report which includes images and customer supplied details, as well as an optional PASS/FAIL notification.

There are 50+ calculations/measurements available to choose from in the Calculations window.

The PG1000-400 REACTION software allows the user to measure tool geometries in multiple ways.

- **Screen:** take measurements by picking points on the monitor's screen via the mouse
- **Scales:** use the X & Y axis handwheels to mark points and take measurements via the scales
- **Edge Detection:** draw area of interest boxes and allow the software to detect the tool's edges when taking measurements
- **Comparisons:** the software can create comparison geometries for quick referencing (Go/No-Go)

Although not covered in the Quick Start Guide, it is also possible to inspect tools by importing or creating image overlays.

- **DXF/DWG file:** import overlay for tool size comparisons
- **CTM file:** create and save tool image to use as an overlay for tool alignment and inspections

Optional: Add Test Info

If desired, enter the Operator Name, Customer Name, Supplier Name, Job / Ticket # and/or Tool #. This information will later print on the report generated by the REACTION software.

Info	
Date:	6/22/2020 4:15:25 PM
Operator Name:	Smith
Customer Name:	Aero-Jet Inc
Supplier Name:	ABC Tool
Job / Ticket #:	9471-PG
Tool #:	784-W-35

Step 1: Select desired calculation

From the calculations window pane select desired calculation by one of the following:

- Double clicking calculation

- Left click calculation (one time) to highlight and then click 'Start' button below

- Drag and drop calculation to 'Results' window

Note: After the chosen calculation is completed additional calculations can be added to the Results window and completed.

Step 2: Select points for calculations

Screen calculations require the user to utilize the mouse to select points on the cutting tool. Left click the mouse on the desired location to set a point. Points can be moved/dragged after they are set. See instructions for how many points are required to complete the calculation.

Select desired locations on a feature to make a calculation.

Scale calculations require the user to turn the X & Y handwheels to position the crosshairs on the desired location to set a point. Once location is reached the user must select the 'Insert' button on the bottom of the Instructions window to set a point. See instructions for how many points are required to complete the calculation.

Edge Detection calculations require the user to draw an Area Of Interest (AOI) box(es) encapsulating the feature to be measured. Left click, hold and drag the mouse to produce the AOI box. See instructions and/or demo video for requirements to complete the calculation.

AOI Box drawn around the edge of feature.
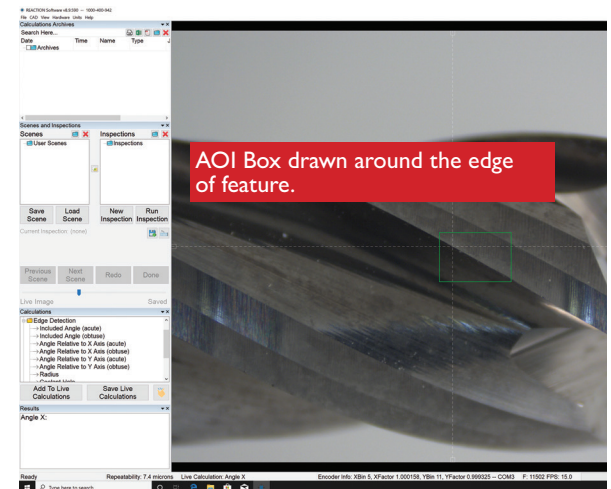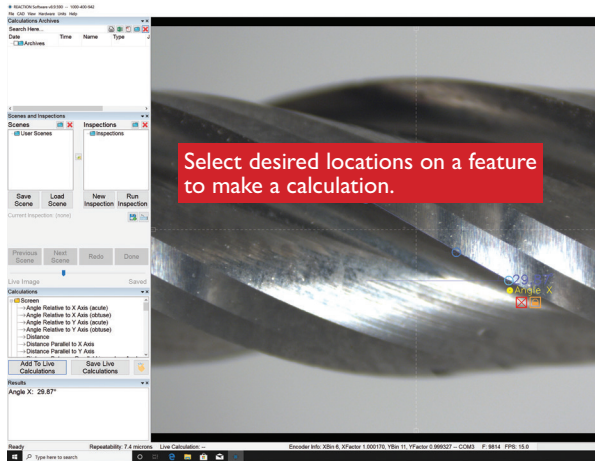
Calculation results will be displayed on screen and in the Results window. After one calculation is completed additional calculations can be added to the same scene.

Step 3: Clear or save calculation(s)
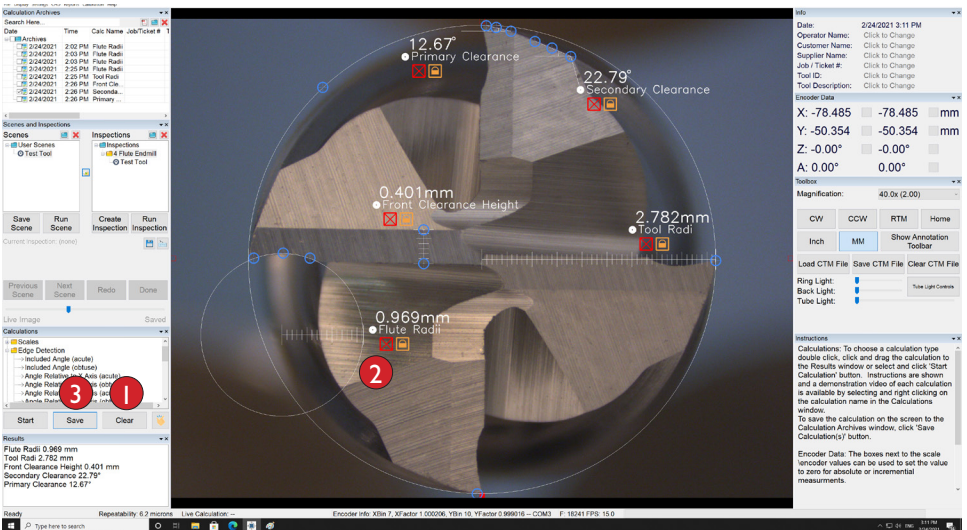
Clear Calculation

To clear the calculation(s) click on one of the following:

1 'Clear' button

2 Click red "X" ☒

Save Calculation

3 To save the results of the calculation select the 'Save' button. The software will prompt the user to enter a file/ calculation name as well as tolerance information and the results will be saved to the Calculations Archives.

How to Generate a Report

1 **Complete Calculation(s)**
As described in Steps 1-2 'How to Make a Calculation'

2 **Save Calculation**
As described in Step 3 'How to Make a Calculation'

3 **Create Report**
Check the box next to the saved calculation(s) the report should include. Click on the PDF icon on the top of the Calculation Archives window to generate report.

Trouble Shooting

Problem	Solution
No camera image. 'REACTION Software Demo Mode' displayed.	• Make sure encoder interface box green LED power indicating light is on. Power supply must be installed. • Make sure camera is plugged into USB 3.0 port. • Unplug and re-plug all USB cables to reestablish connection. • Exit program and restart program.
'Outside Working Area' displayed.	• Move X and/or Y scale handwheels until camera is positioned within working area. • Calibrate scales *(under Calibration Menu)* - Systems PW: PG2019 • Exit program and restart program.
M Axis (magnification) failure / 'Microscope Mag Wheel Seated Improperly' displayed.	• Make sure thumbwheel is seated properly in detent. • Calibrate Microscope *(under Calibration Menu)* - Admin PW: PG2019 • Exit program and restart program.
System will not pass encoder checks.	• Ensure all cables and connections are securely in place. • Exit program, reboot computer and restart program.
No video feed / frozen image.	• Unplug and re-plug all USB cables to reestablish connection. • Exit program and restart program.
Edge Detection Failure	• Readjust the light. Creating distinguishing contrast is important for software driven calculations. • Reboot system
Encoder Box not located by software.	• Unplug and re-plug all USB cables to reestablish connection. • Check device manager for connection on COM Port 3. • Make sure encoder interface box green LED power indicating light is on. Power supply must be installed. • Exit program and restart program.