


# Profile Ellipse


## Purpose


The Ellipse tool provides measurements relevant to the fitted ellipse.

## Inputs

Inputs ▼

Profile Input
Replay/Pro...
▼


Anchor X
▼


Anchor Z
▼


Name	Description
Profile Input	The profile data that the tool will use to fit an ellipse. Accept both uniform (resampled) and point cloud (raw) data.
Anchor X Anchor Z	Lets you choose the X or Z measurement of another tool to use as a positional anchor for this tool.

## Parameters

Parameters ▼

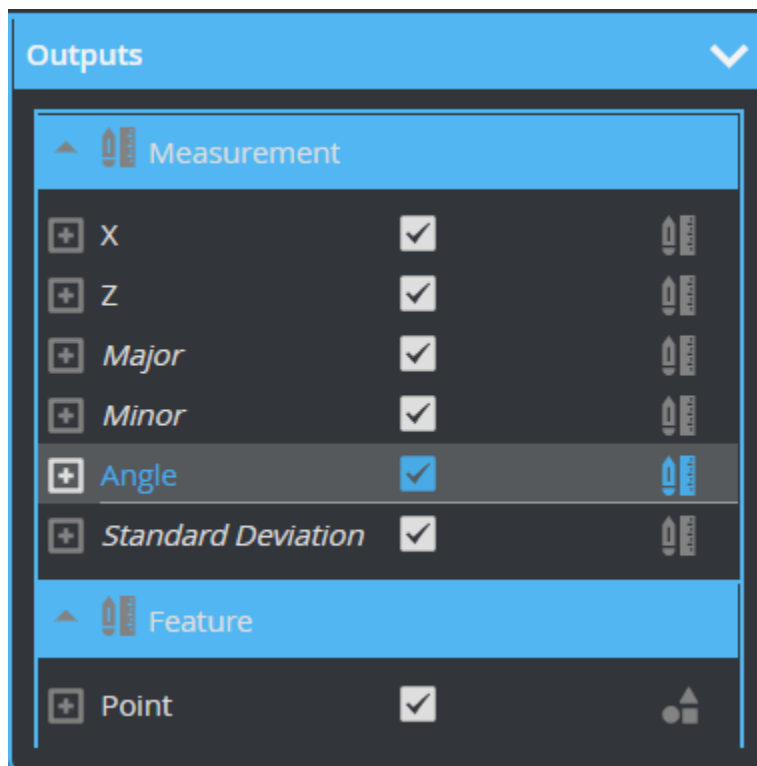
Use Region
☐

External ID
ProfileEllipse-0

Name	Description
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Use Region	When enabled, displays additional settings to let you set a region (see below).
Number of Regions Region {n}	Lets you set the number of regions, and for each region, the position and dimensions.

## Outputs



Type	Name	Description
Measurement	X	Determines the X position of the center of the bounding box that contains the part.
Measurement	Z	Determines the Z position of the center of the bounding box that contains the part.

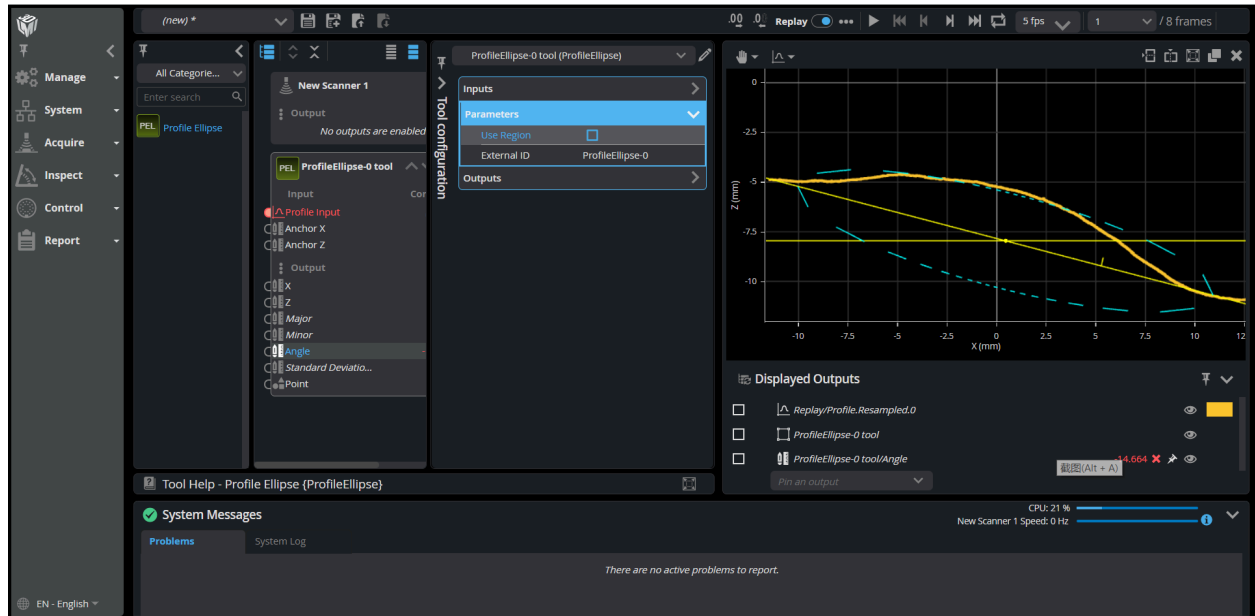
Measurement	Major	Determines the major axis length of an ellipse fitted to the part's area in the XY plane.
Measurement	Minor	Determines the minor axis length of an ellipse fitted to the part's area in the XY plane.
Measurement	Angle	Determines the orientation angle of an ellipse fitted to the part's area in the XY plane.
Measurement	Standard Deviation	Standard deviation for points involved in fitting an ellipse from the center point.
Feature Point	Point	The center point of the fitted ellipse.

## Major Revisions

### Gocator Classic to GoPxL

- 'Profile Ellipse' of GoPxL implements its counterpart in classic, but adjusts its angle output to be consistent with other profile tools involving angle.

## Application Examples

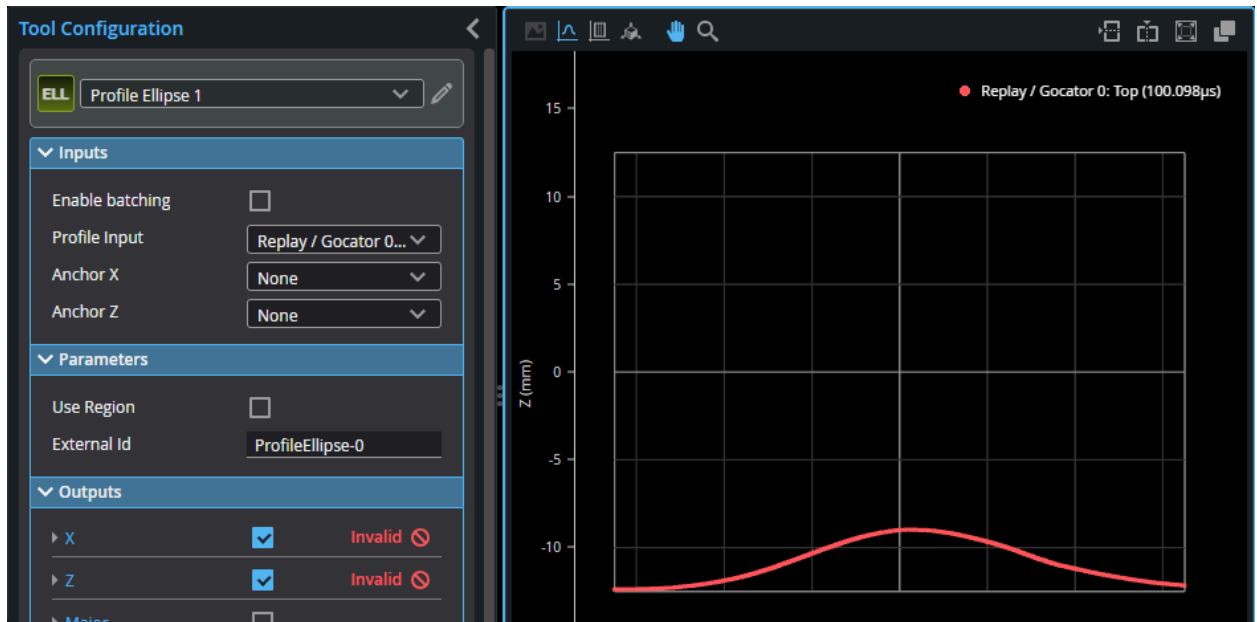


## Algorithm Details

Include or link reports explaining the methodology used by the tool.

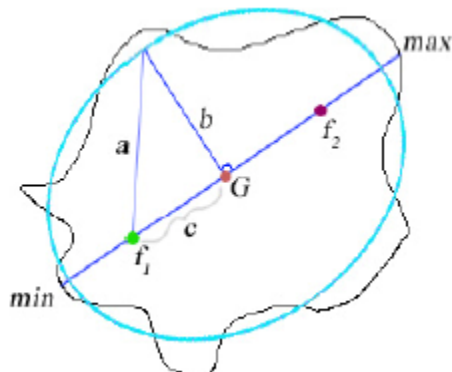
## Questions

- It's not clear to me what kinds of profiles are expected to work with this tool. I don't understand why the following doesn't work. It seems similar to what's shown above in the **Application Examples** section.



In [VE-2369](#), you mentioned something about “the method is area based so it needs to take into consideration all of the pixels within a closed shape (It is difficult to achieve in practice).” (Not sure if you’re talking about the method described in the PDF attached to the ticket, or what’s implemented in the tool.) Could this explain why an ellipse isn’t fitted to the profile?

UPDATE: I’m beginning to wonder if the tool is in fact intended to be used with a profile that contains something that is elliptical, more like this, which would mean it’s supposed to be used in multi-sensor, ring applications:



I have been assuming it would behave like Profile Circle, which will fit a circle to just a few pixels.

- Like the Classic version, does this use the least square method?