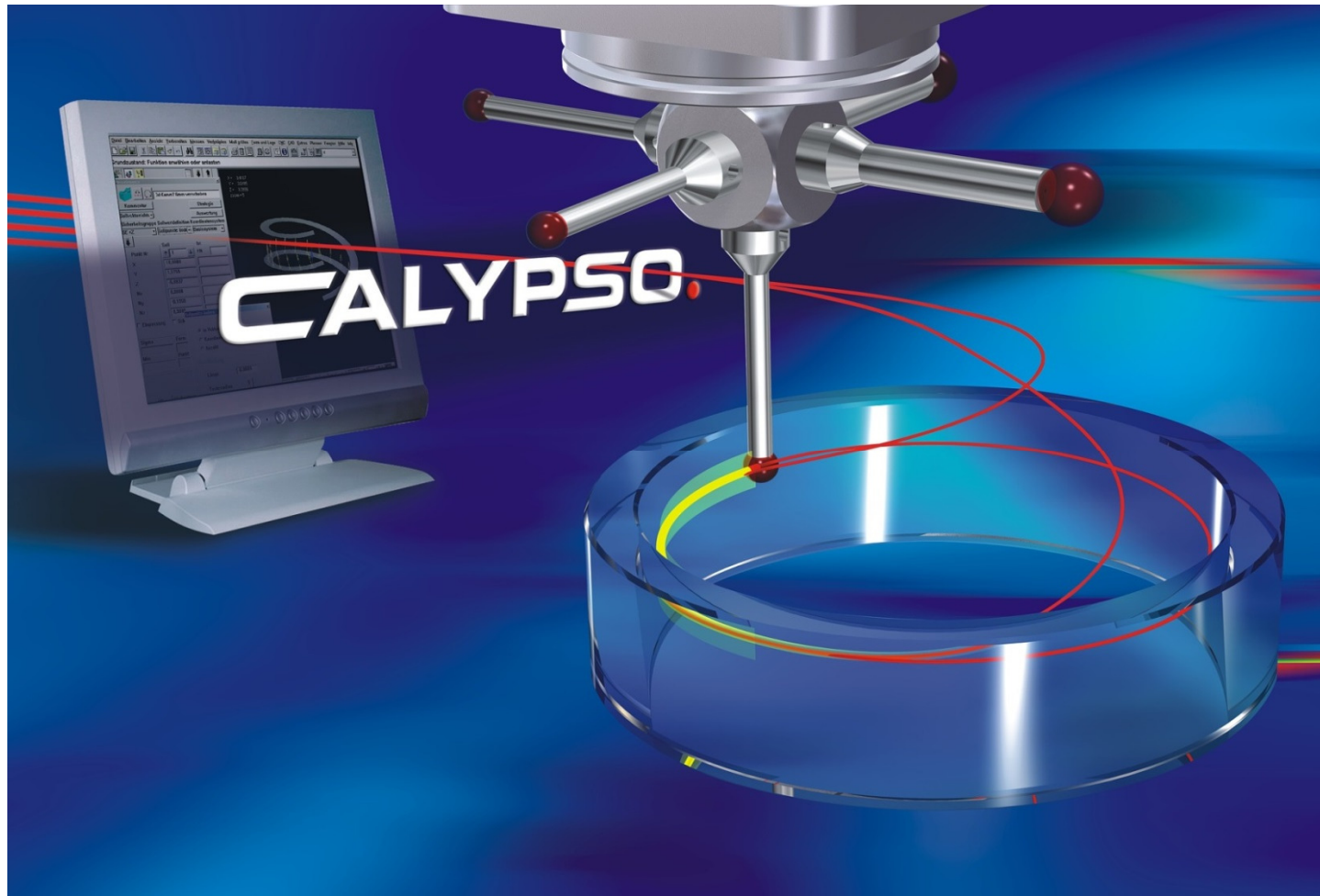
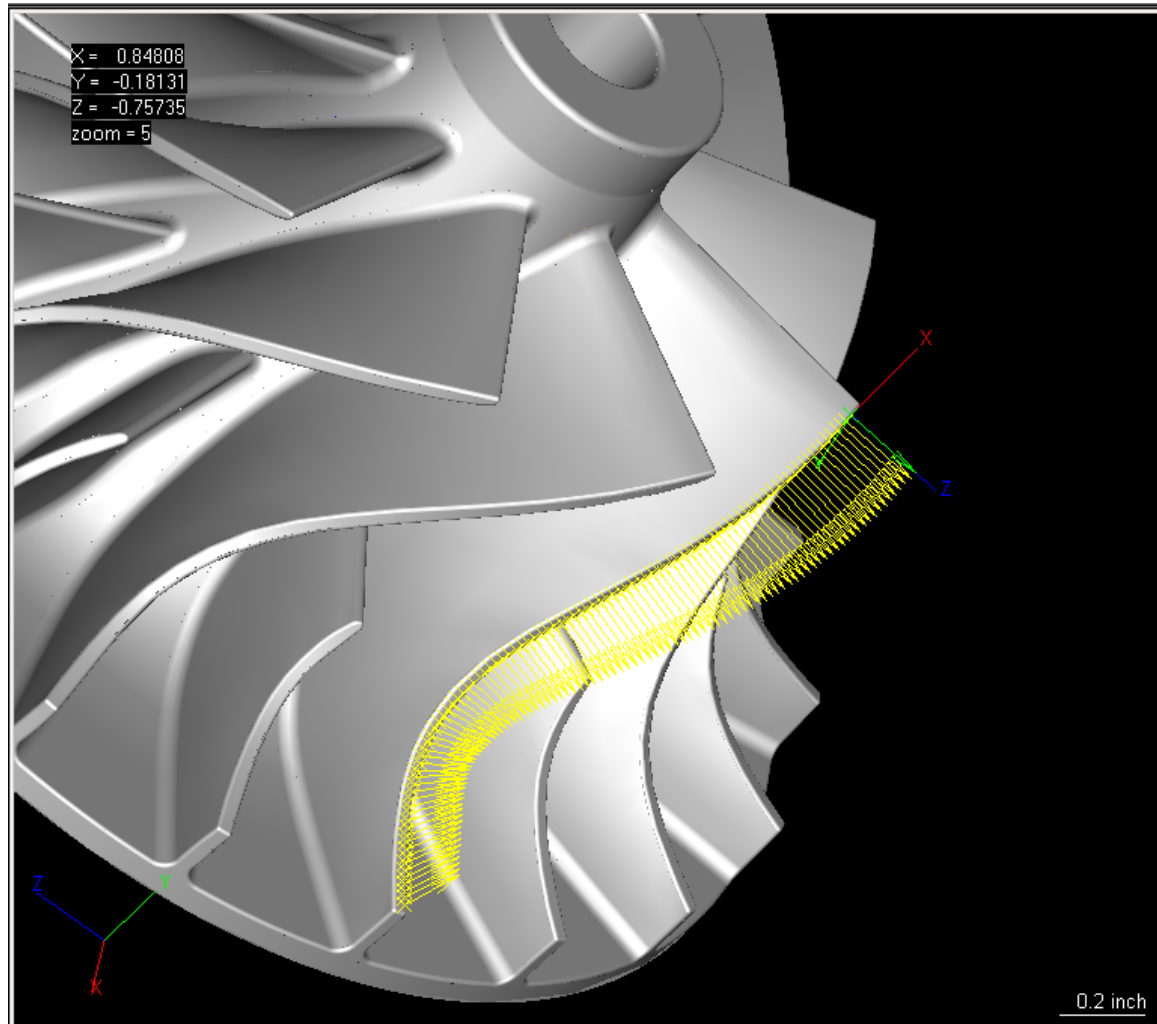


Calypso Curve Overview

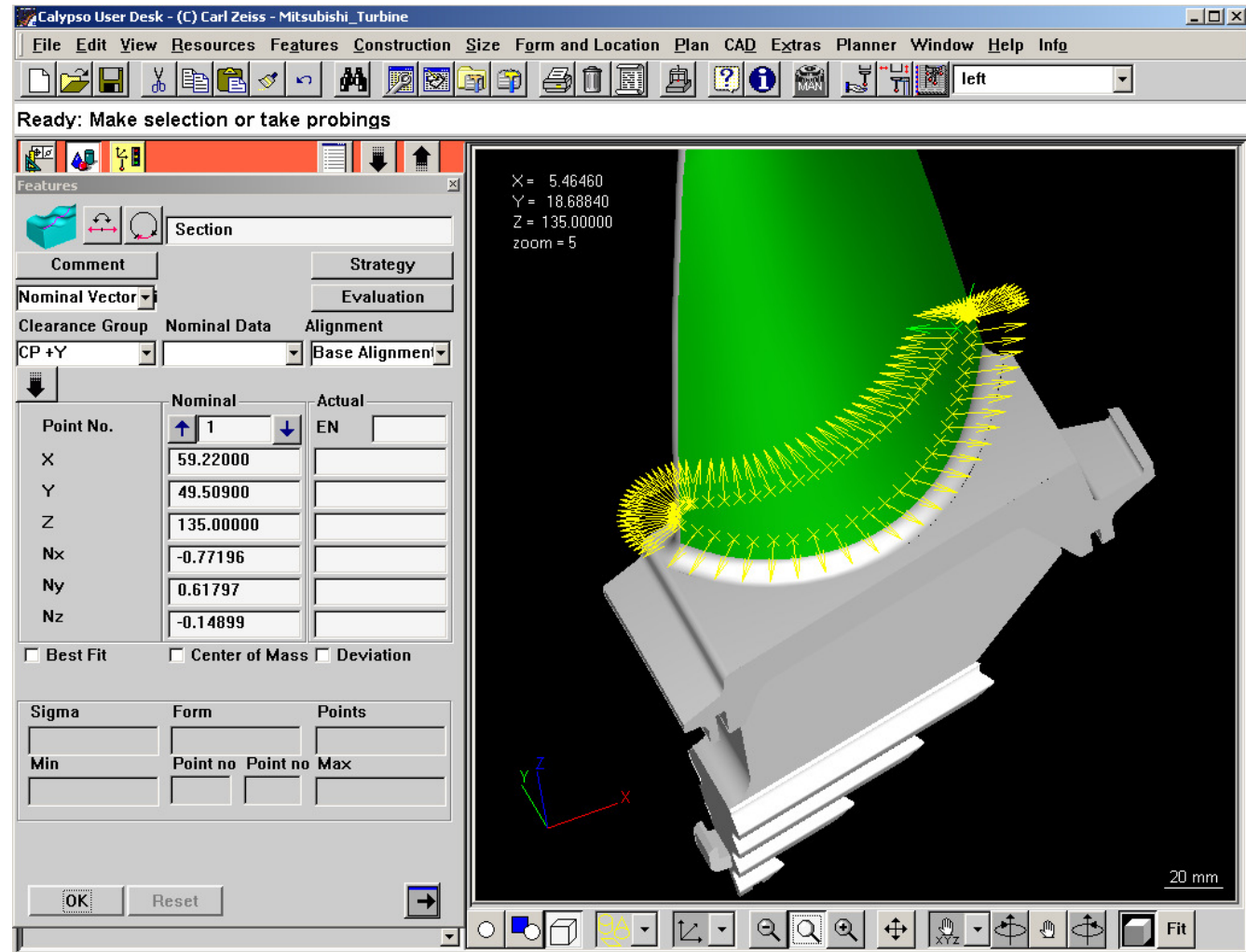




The Calypso Curve option is used to measure and evaluate 2-D and 3-D sections of a part.

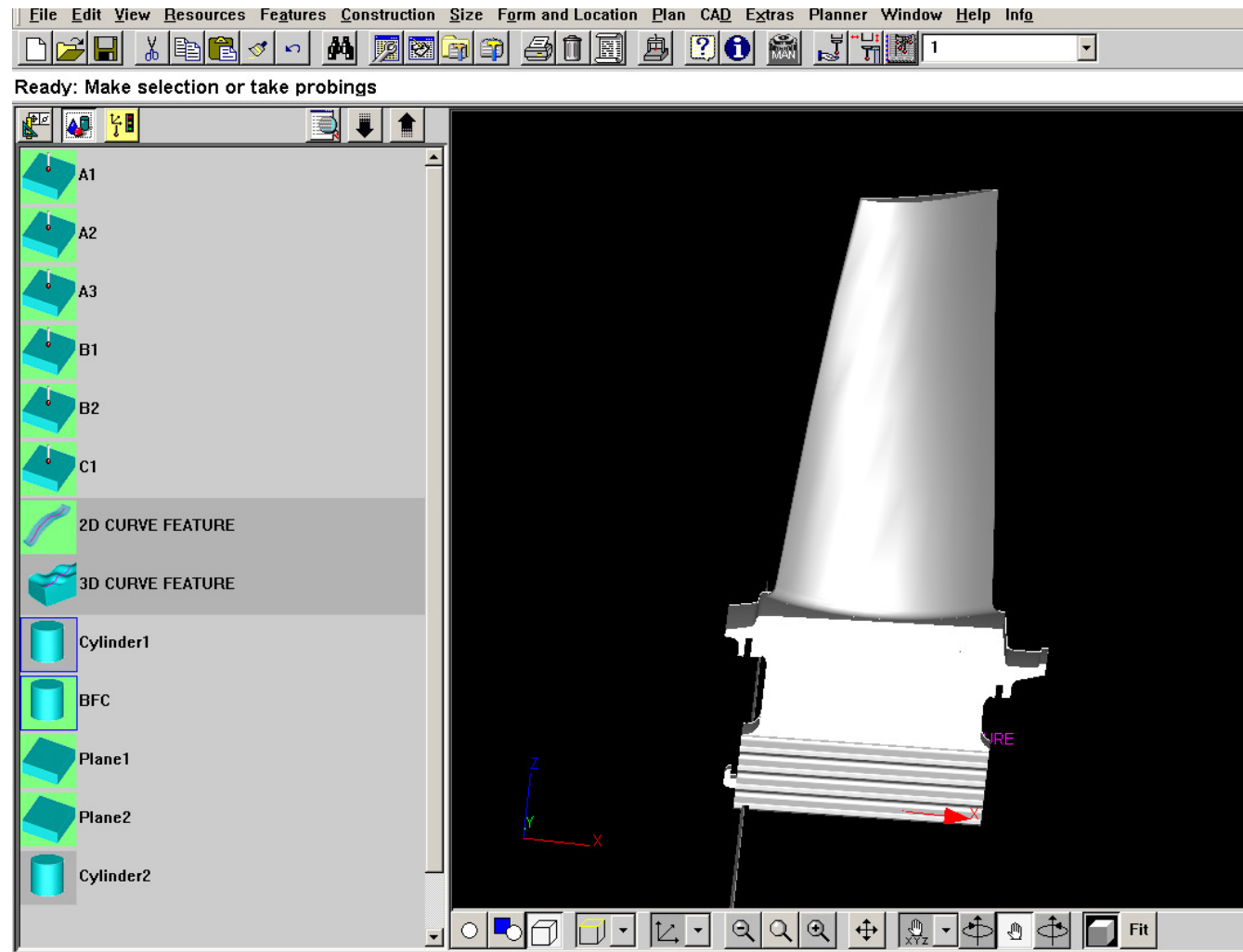
Curves are measured along a series of nominal points defining the target shape.

Curve profile of the section is evaluated using an “envelope” tolerance around the target shape.

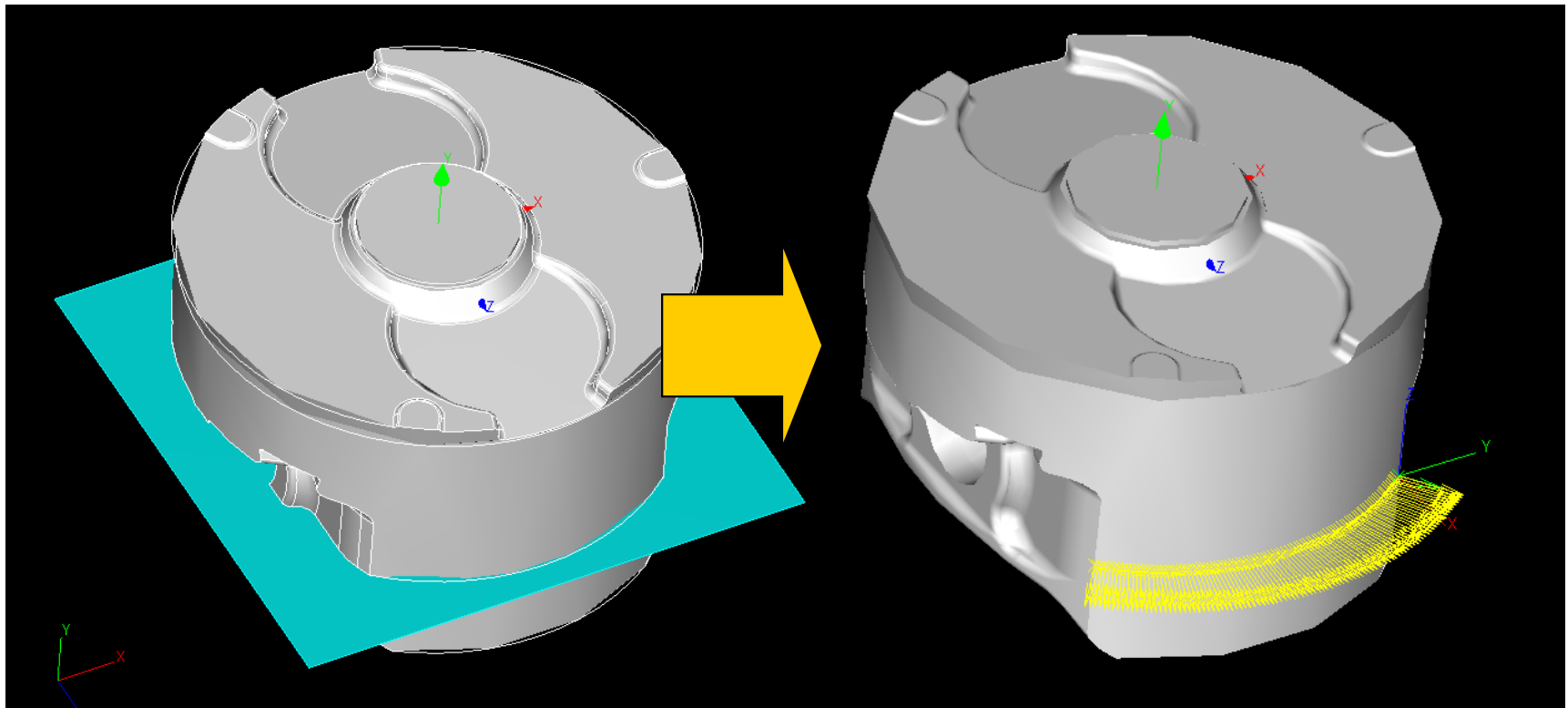


Curve Features and Curve Profile Characteristics in Calypso “look and feel” like any other geometric feature or characteristic in Calypso.

Curves are represented with standard Calypso icons and follow Calypso’s object oriented programming structure, which all Calypso users are familiar with.

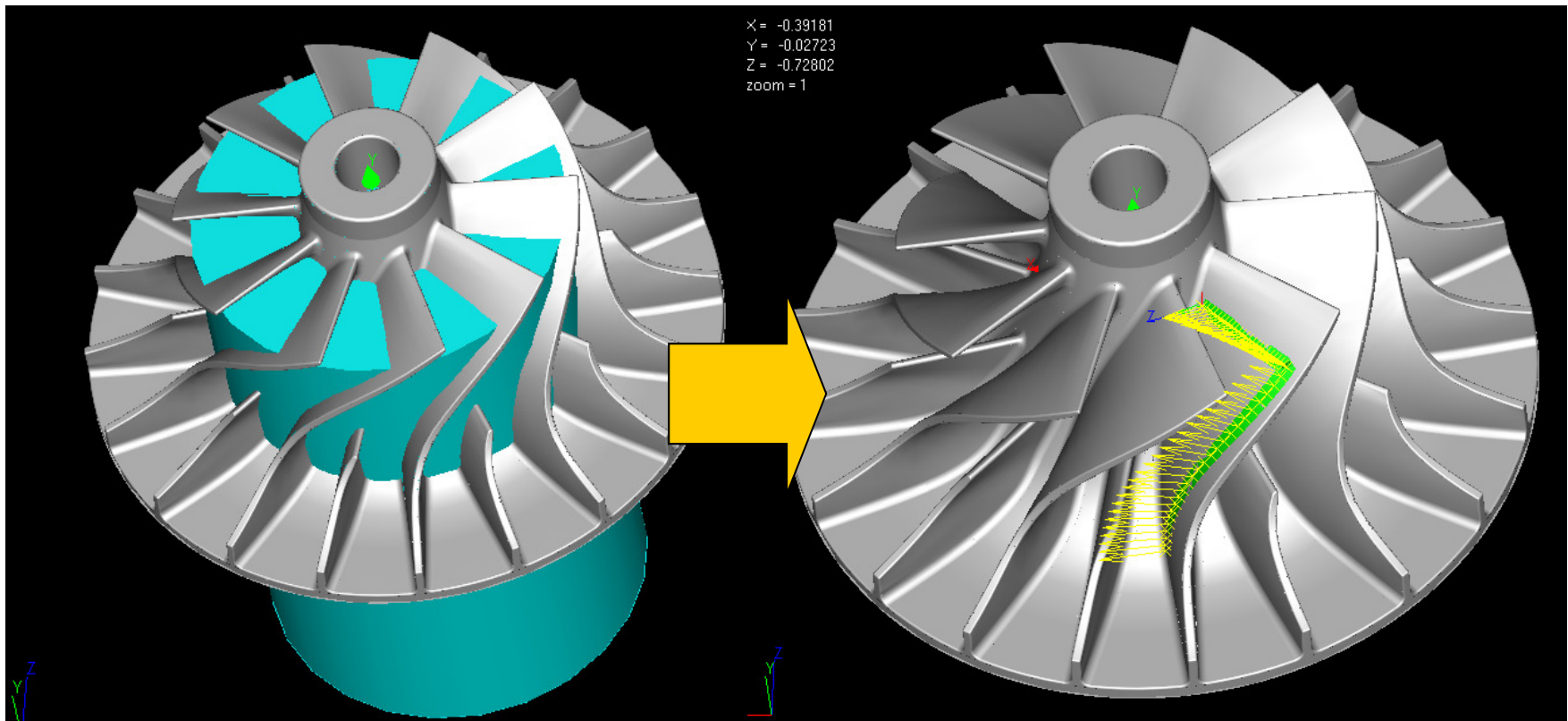


The nominal curve profile can be defined from a 3-D CAD model by intersecting the model with a cylinder or plane. Using this method, the curve nominals lay on the intersection path, as shown below.

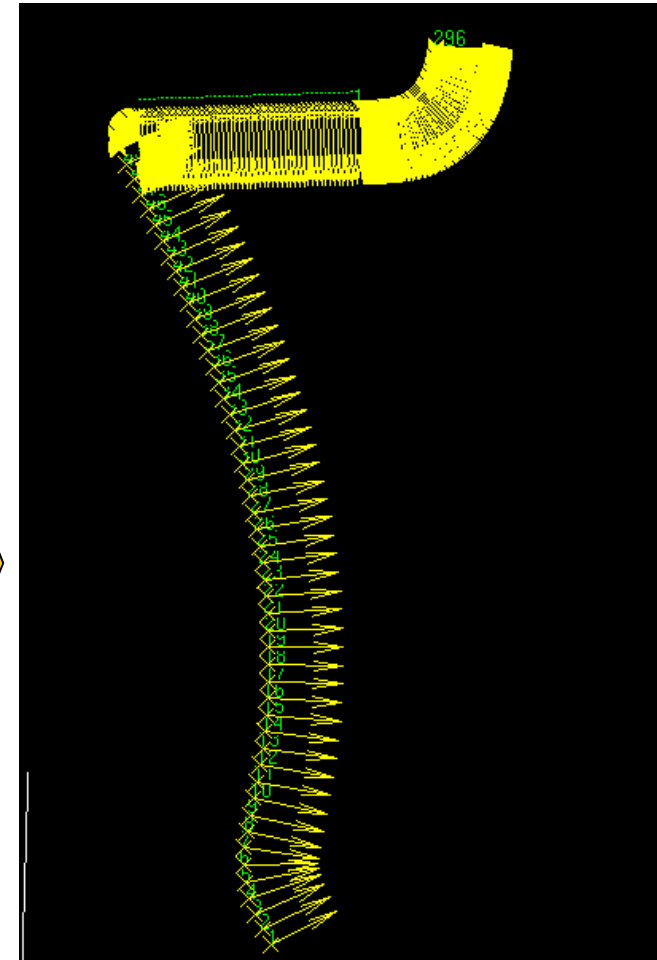
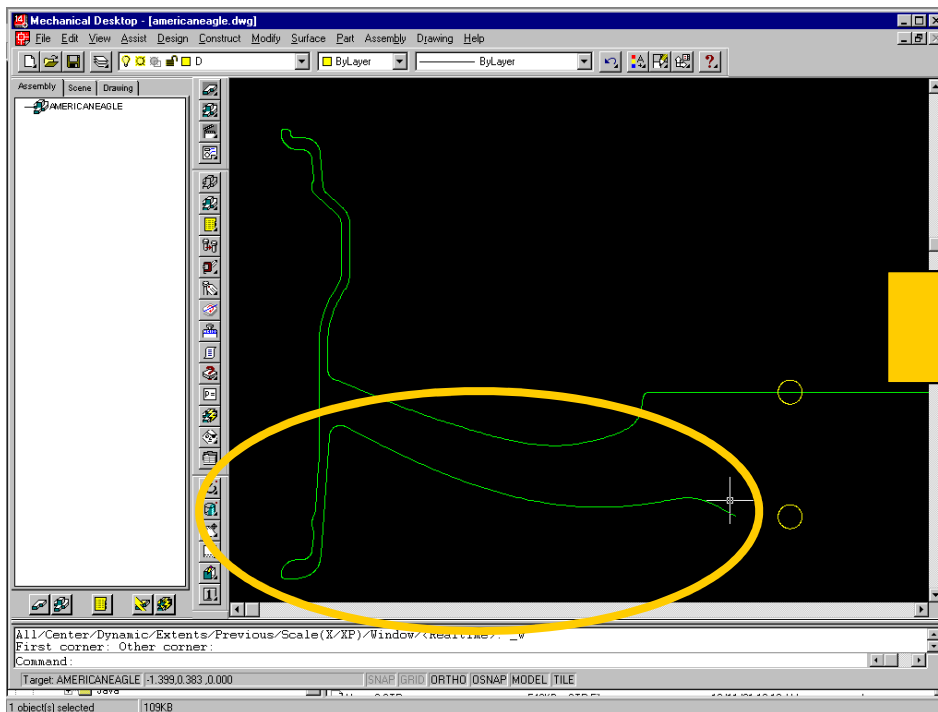




The nominal curve profile can be defined from a 3-D CAD model by intersecting the model with a cylinder or plane. Using this method, the curve nominals lay on the intersection path, as shown below.



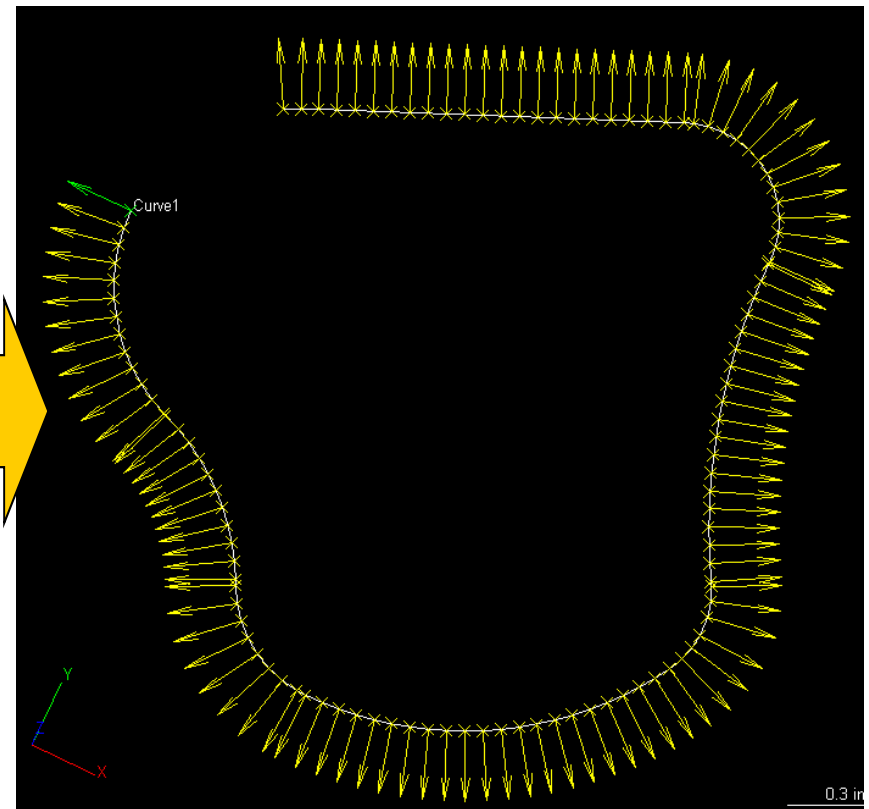
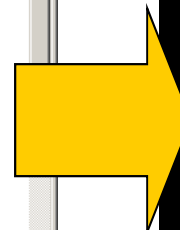
If a nominal curve shape is available in a 2-D scale CAD drawing, it can be read into Calypso curve using DXF format.



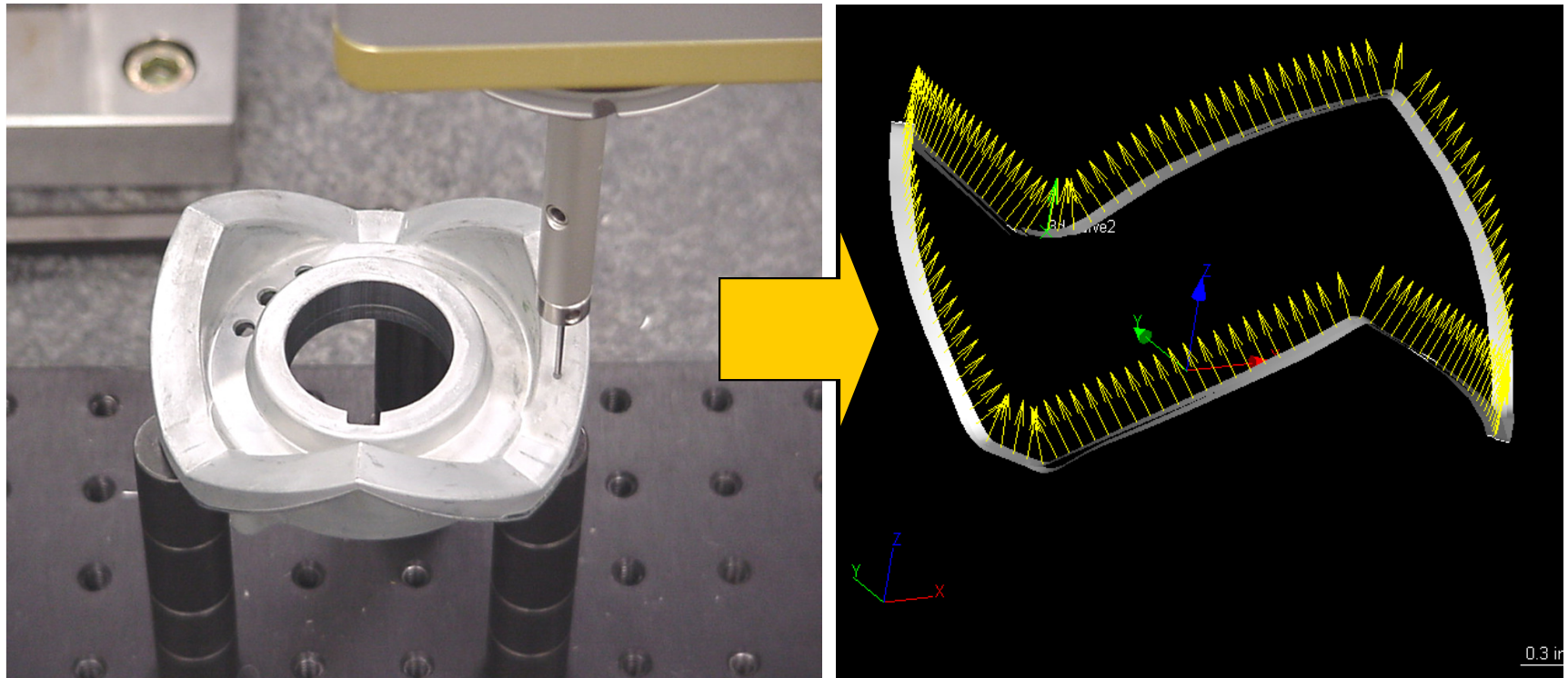
If a CAD model is not available, Curve can use a list of points (plain text, Excel sheet, or VDA format) to define the nominal shape.

```

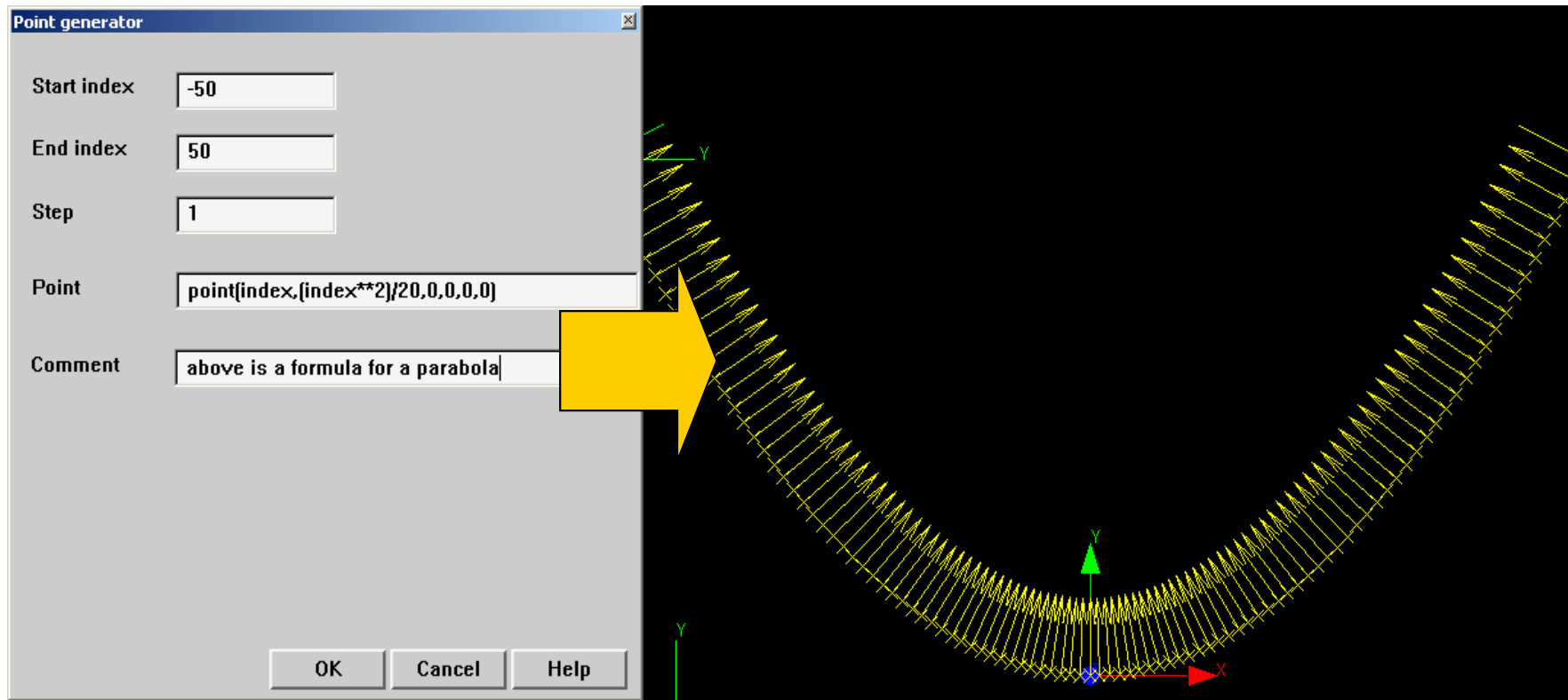
ControlCurve.VDA - WordPad
File Edit View Insert Format Help
[Icons]
PF1 = PSET/ 115,
17.5000, 47.5000, 0.0000, 17.5749, 46.0025, 0.0000,
17.7990, 44.5200, 0.0000, 18.1700, 43.0672, 0.0000,
18.6841, 41.6587, 0.0000, 19.3363, 40.3086, 0.0000,
20.1200, 39.0304, 0.0000, 21.0274, 37.8367, 0.0000,
22.0494, 36.7397, 0.0000, 23.1759, 35.7501, 0.0000,
24.3955, 34.8779, 0.0000, 25.6961, 34.1319, 0.0000,
27.0646, 33.5194, 0.0000, 27.2752, 33.4394, 0.0000,
28.6606, 32.8652, 0.0000, 29.9996, 32.1898, 0.0000,
31.2847, 31.4169, 0.0000, 32.5090, 30.5509, 0.0000,
33.6657, 29.5964, 0.0000, 34.7483, 28.5587, 0.0000,
35.7510, 27.4435, 0.0000, 36.6682, 26.2570, 0.0000,
37.4949, 25.0058, 0.0000, 38.2264, 23.6967, 0.0000,
38.4732, 23.1968, 0.0000, 39.2177, 21.8962, 0.0000,
40.1481, 20.7214, 0.0000, 41.2436, 19.6989, 0.0000,
42.4796, 18.8515, 0.0000, 43.8284, 18.1984, 0.0000,
45.2597, 17.7542, 0.0000, 46.7412, 17.5288, 0.0000,
47.5000, 17.5000, 0.0000, 48.9994, 17.5375, 0.0000,
50.4950, 17.6499, 0.0000, 51.9831, 17.8369, 0.0000,
53.4601, 18.0980, 0.0000, 54.9221, 18.4326, 0.0000,
56.3656, 18.8399, 0.0000, 57.7869, 19.3188, 0.0000,
59.1826, 19.8682, 0.0000, 60.5490, 20.4866, 0.0000,
61.8828, 21.1725, 0.0000, 63.1806, 21.9243, 0.0000,
64.4393, 22.7399, 0.0000, 65.6556, 23.6175, 0.0000,
66.8265, 24.5547, 0.0000, 67.9492, 25.5493, 0.0000,
69.0207, 26.5988, 0.0000, 70.0384, 27.7005, 0.0000,
70.9998, 28.8517, 0.0000, 71.9025, 30.0495, 0.0000,
72.7441, 31.2909, 0.0000, 73.4809, 32.5003, 0.0000,
74.0213, 33.6333, 0.0000, 74.3778, 34.8369, 0.0000,
74.5417, 36.0814, 0.0000, 74.4541, 37.7514, 0.0000,
74.1611, 38.9720, 0.0000, 73.6807, 40.1318, 0.0000.
For Help, press F1
NUM
    
```



Curve can be used to “Reverse Engineer” unknown shapes of a master part. This data can be saved out in a CAD file or can be used to compare other parts to the master’s shape.



Using Curve's point generator, you can even create nominals with a mathematical equation.



The image shows a software interface for generating points on a curve. On the left is a dialog box titled "Point generator" with the following fields:

- Start index:
- End index:
- Step:
- Point:
- Comment:

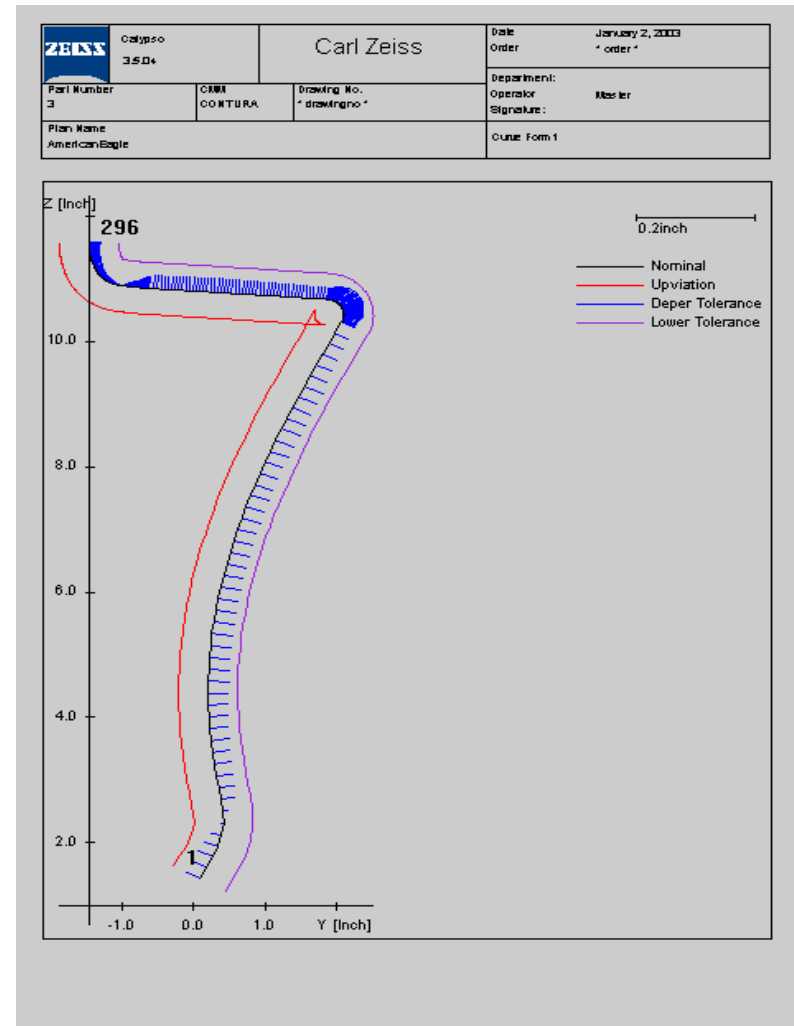
At the bottom of the dialog are buttons for "OK", "Cancel", and "Help". A large yellow arrow points from the "Point" field to a 3D plot on the right. The plot shows a parabolic curve in a coordinate system with X, Y, and Z axes. The curve is composed of many small yellow line segments, and a blue dot marks the vertex of the parabola.



Curve form is typically represented in graphic plots similar to this example.

Tolerance bands (red and purple lines) are applied around the nominal shape (black line). The actual part deviations (blue whiskers) are plotted within the tolerance envelope.

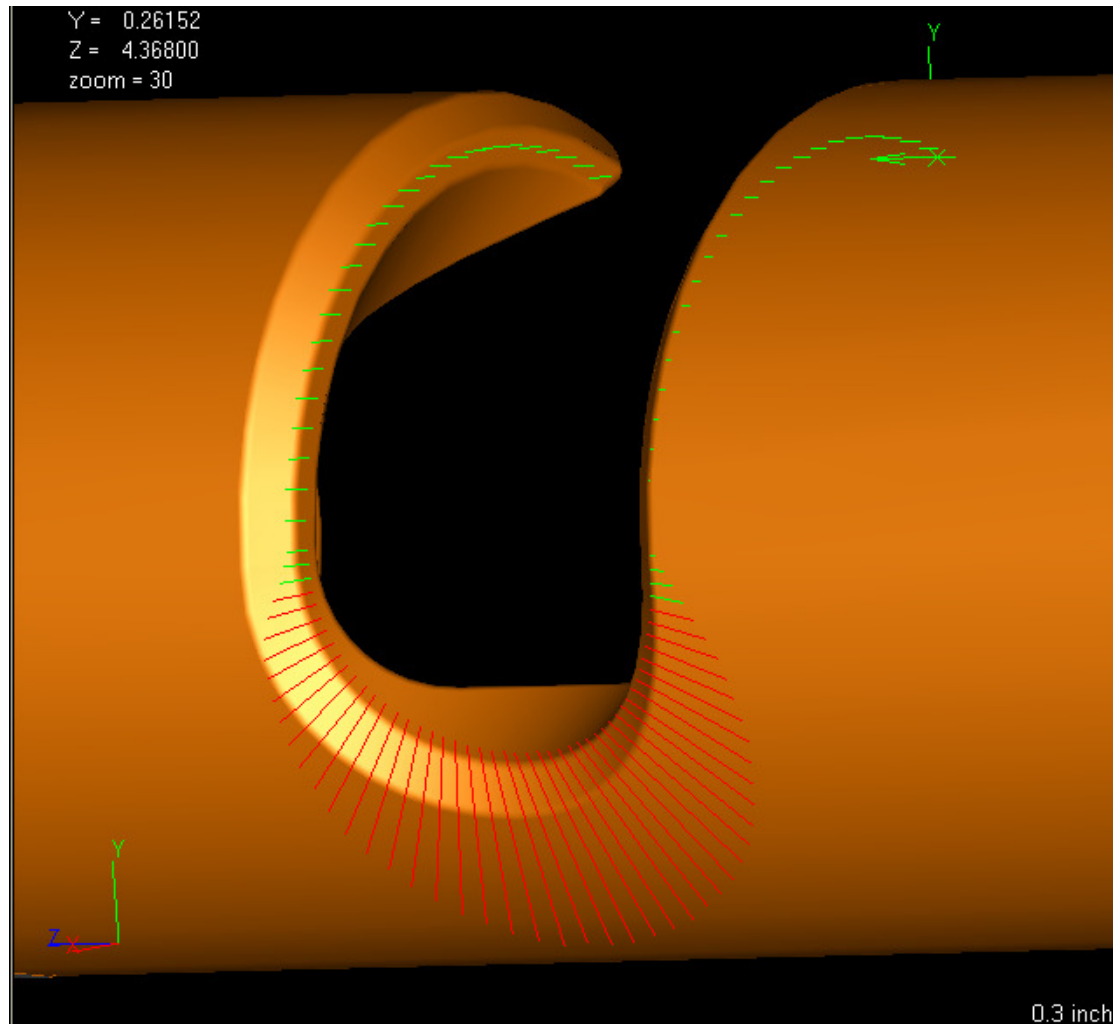
These graphics are valuable in quickly and easily showing where and how the actual part varies from the nominal shape.





Curve form can also be displayed on the cad model. This type of display is very useful for the representation of 3-D curve measurement results which are hard to display clearly in a 2-D form plot format.

On a cad view of curve form, deviations within tolerance are colored green and deviation outside tolerance are colored red.

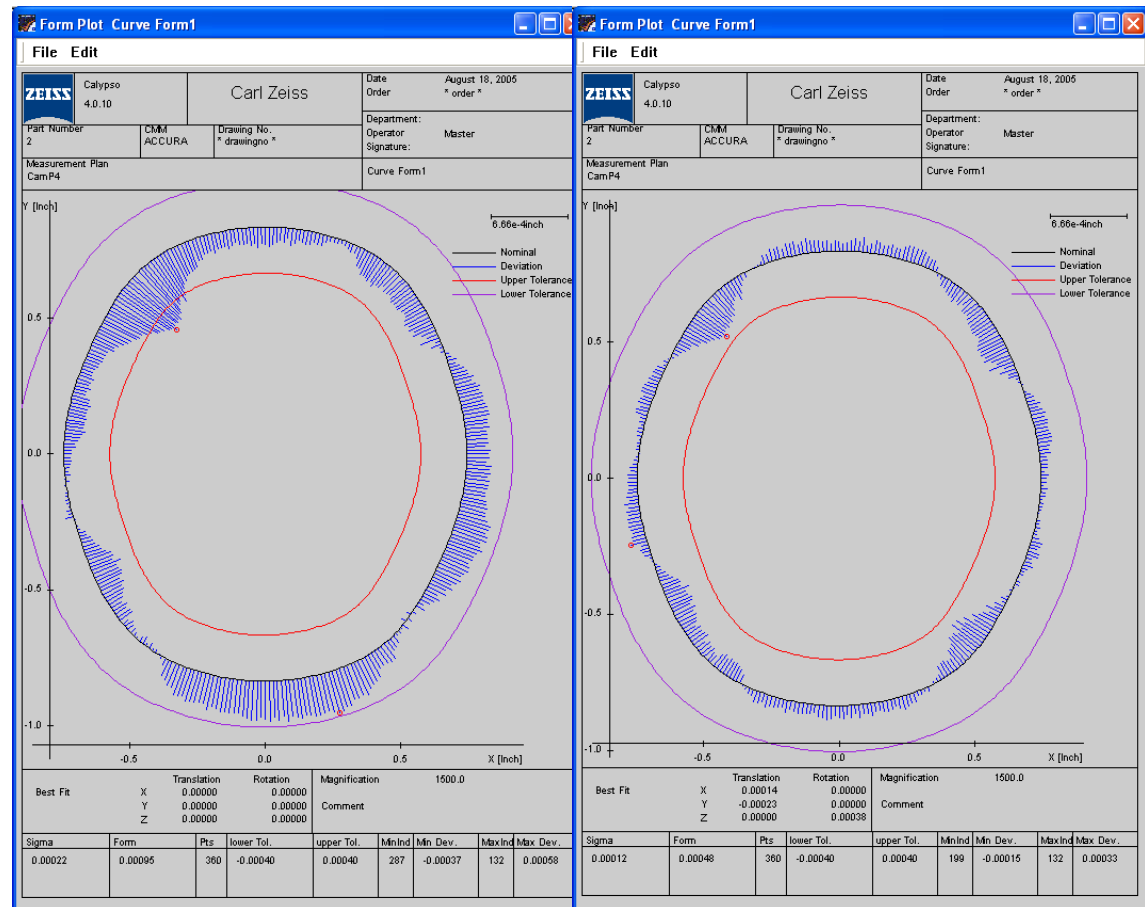




Curve form can be evaluated “as-is” to a coordinate system defined by an alignment to datums.

Best-fit evaluation of the Curve form can also be done easily by marking a checkbox.

The amount of translation and rotation applied to accomplish the fit can be recorded on the Calypso measurement report.



Form fully constrained to datum structure.

Curve form best-fit.



If you have any specific questions about how Curve works, or would like confirmation that Calypso with Curve is a good solution to your measurement challenges, please contact us!

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