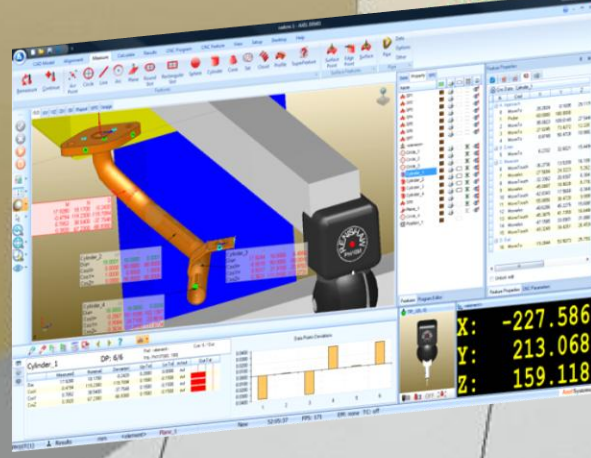




X: -713.5990 0.2420  
 Y: -317.8599 9.7094  
 Z: -248.6580 -37.7548  
 CosZ= 0.3920 67.2300 -66.8380

Plane\_1 M N D  
 X= -44.8000 -44.8000 0.0000  
 Y= 5.7496 -3.9590 1.0000  
 Z= -90.0000 -90.0000 0.0000



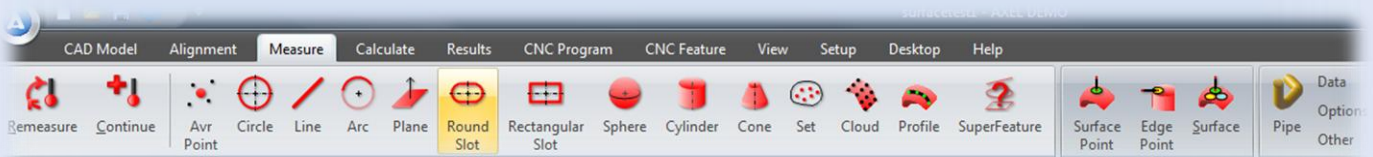
X: -227.586  
 Y: 213.068  
 Z: 159.118



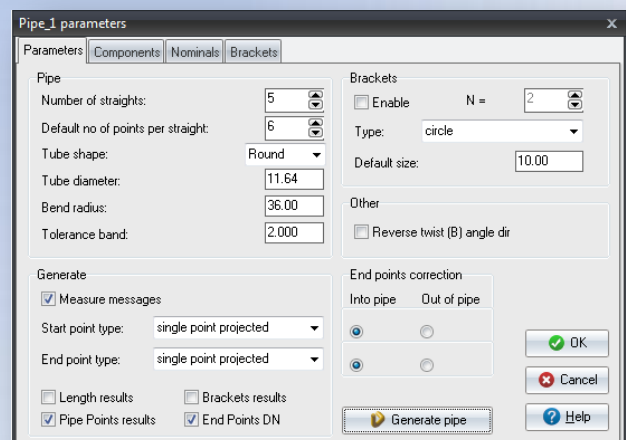
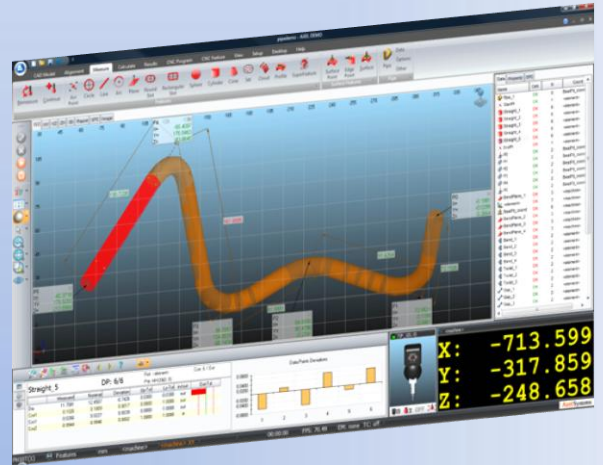
# AXEL 7 TUBE

SFC  
 ETrimSr339  
 Dn= 0.0000 0.0000 0.0000  
 DnX= 0.0000 0.0000 0.0000  
 DnY= 0.0000 0.0000 0.0000  
 DnZ= 0.0000 0.0000 0.0000  
 X= -59.0738 -59.0738 0.0000  
 Y= 301.2733 301.2733 0.0000  
 Z= -9.8610 -9.8610 0.0000

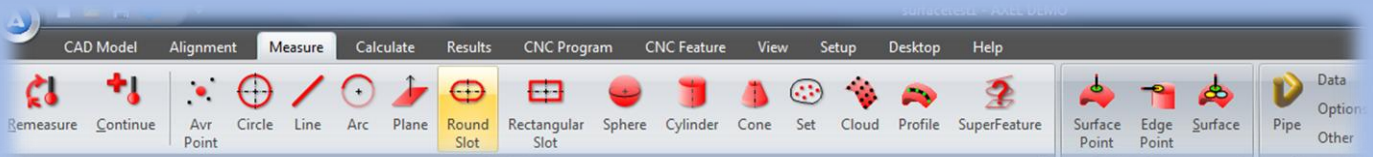
# ADVANCED FEATURES MAKE AXEL EASY TO USE



- ❑ **Bend on Bend Measurement** - With Axel Pipe, the operator can choose where to take points for a 'bend on bend' construction, and then opt to remove the intersection from the 'best fit' if required
- ❑ **180° Bend Measurement** – our software can cope with multiple 180 bends in a tube assembly. The 180 bend data is entered as YBC coordinates ( Pull / Rotate / Bend) and can then be converted to XYZ coordinates.
- ❑ **Intricate Assembly Measurement** – Pipe Wizard can measure intricate, intertwined parts with short straights and multiple 180 bends that our competitors would not even attempt.
- ❑ **Assembly Versatility** – Our software can measure tube assemblies, brackets, T sections and intersections, with the accuracy to measure geometrical features against master drawings.
- ❑ **Tube End Fitting Measurement** – Standard Axel Tube inspection Wizard software has 4 build in end fitting types to measure the position and angle in modern day tube assemblies – Square, Angled Face, Jagged and Flange / Banjo.
- ❑ **End point Correction** – Axel Pipe can cope with the tube start / end points being at either side of the end fitting.
- ❑ **Multiple Fit Options** – Pipe Wizard software contains multiple fit options – Best Fit / End Fit / Last End Fit. Rouge or deformed intersection points can also be excluded from the fit. Any geometrical feature such as a bracket or 'T' section can also be added.
- ❑ **Multiple Datums** – Pipe Wizard software allows multiple datums so that extra features can be displayed with respect to other datum on the tube assembly.



# ADVANCED FEATURES MAKE AXEL EASY TO USE



- ❑ **Multiple Coordinates** – Axel Pipe Wizard allows data / output results to be configured as pipe coordinates or CAD / Car line / Aircraft line coordinates.
- ❑ **Data Entry** – our software allows data entry in XYZ or YBC (Pull / Rotate / Bend) format.
- ❑ **Tube Data Import / Export** – As with any system the tube nominal data can be entered at the keyboard but Axel software can also extract the tube data from CAD data or text file. The tube nominal and / or correction data can also be exported to compatible pipe benders. All of these options save time and avoid keyboard or operator errors.
- ❑ **Pipe Bender Link** – Our software come with several pipe bender download links as standard for popular manufactures such as Addison, Unison and Herber. We can create a download link free of charge for any pipe bender with the supply of the manufacturers link protocol.
- ❑ **Extended Results** – Axel Pipe Wizard not only give XYZ, YBC and envelope correction but also: Straight Miss By, Angle Deviation of each straight, End to End Length, Tangent (Straight) Length, Total Bend and Total Rotation to help in forecasting tool wear.
- ❑ **Reverse Engineering Capability** – Axel Pipe Software have the ability to measure prototype / development tube assemblies, brackets and end fittings, before saving the measured data as IGES / DXF files and sending it to a CAD system.
- ❑ **Production Aid** – Axel Pipe Software can be used as production aids to set the position of brackets, end-fittings and 'T' sections. Simply measure the tube assembly and then use the Digital Read-Out to move the probe head to specific tube / drawing coordinates to set the bracket.



**AxelSystems**

**TUBE INSPECTION REPORT**

Part name	pipelence		
Part info	Black Pipe 0201		
User name	Axel Sys terms Ltd		
Machine	MFC-013		
Modified by	EJC		

Pipe_1 (nominals)									
Coordinates: unpoline; Layer: default; Probe: Red Arm(TP_1)									
	X	Y	Z	Y(mm)	B°	C°	Bend	Di	
0	0.00	0.00	0.00						
1	72.73	0.00	0.00	41.03	82.73	38.00	11.64		
2	84.21	67.78	0.00	-43.17	-48.81	27.27	38.00	11.64	
3	100.43	133.93	-65.24	27.91	93.12	98.32	38.00	11.64	
4	-68.49	178.94	-213.69	91.95	-149.15	88.80	38.00	11.64	
5	-42.51	179.87	-213.69	94.83				11.64	

Pipe_1 (deviations)									
Coordinates: BestFit_coord; Layer: default; Probe: Red Arm(TP_1)									
	dx	dy	dz	Env1	Env2	Y(mm)	B°	C°	Dir°
0	0.00	0.00	0.00						
1	0.11	0.12	-0.04	0.27	0.28	-0.23	0.00	0.00	
2	-0.00	0.31	0.07	0.10	0.44	-0.45	-1.16	0.85	0.48
3	0.72	-0.60	-0.12	0.27	0.26	-0.82	1.24	0.85	1.00
4	-0.00	0.10	0.17	0.28	0.31	0.28	-0.43	0.21	0.35
5	-0.14	-0.00	0.01	0.01	0.01	0.18			0.00

Tolerance band	2.00 mm (MSS)
Total length of measured tube	495.08 mm
Total length of nominal tube	495.00 mm
Tangent length	296.80 mm
Tangent length nominal	295.46 mm
Distance between centres of end faces measured	282.50 mm
Distance between centres of end faces nominal	282.50 mm
Total bend	316.90°
Total rotation	343.89°

16/03/2010 18:41

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