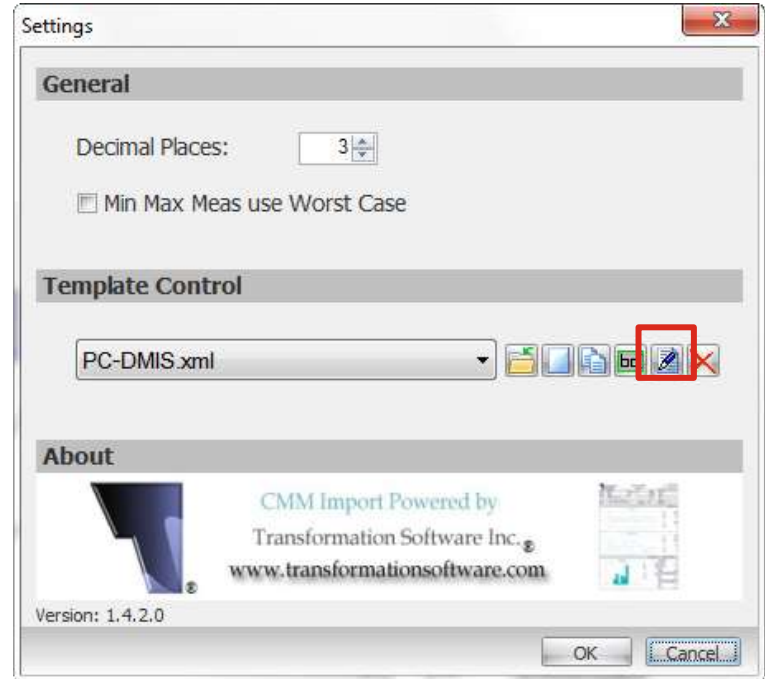


# CMM Data Import

## Copy, Edit, Modify

- Select the Template which is closed the out from your CMM Machine.
- Make a copy
- Then click on 'Edit' to edit the template.



# CMM Template Editor

- Below you will see the examples of editing the default templates as per your CMM output.
- We have tried to cover almost all the types of output which we get from CMM machines.

# CMM Templates

## Keyence IM 6120

- CSV File
- Multiple parts inspected per file



# CMM Templates

## Keyence IM 6120

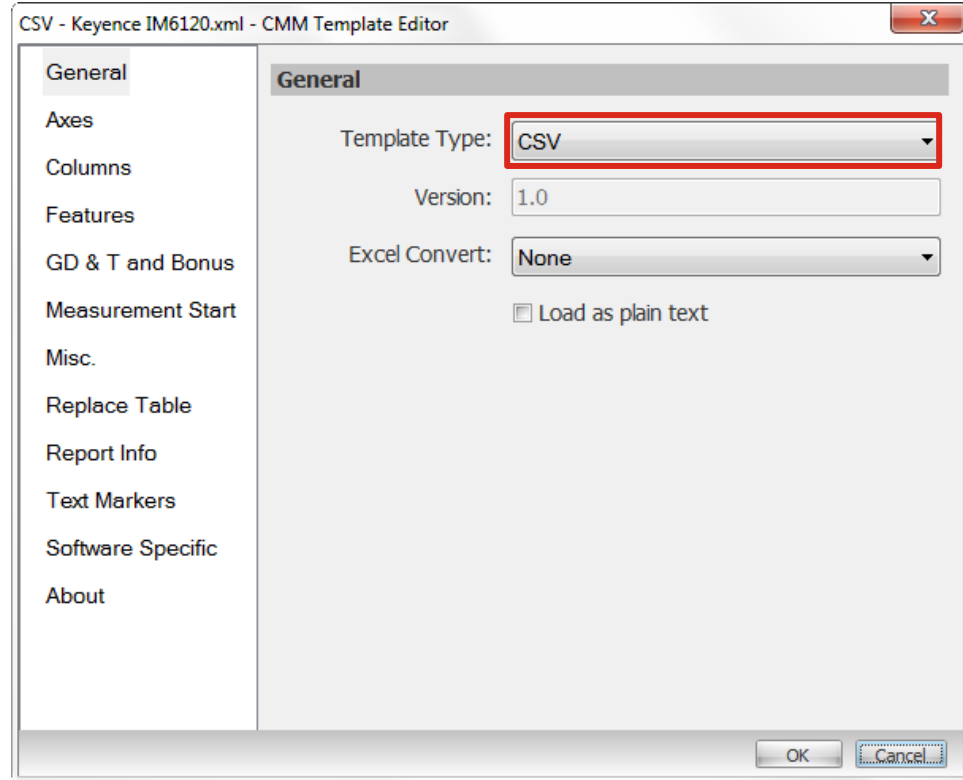
- Since it's a brand new template based on a \*.csv result file, we start by modifying the CSV.xml template

	A	B	C	D	E	F	G	H	I	J	
1	ST	D3									
2	SE	7C413005		3.52	8B						
3	DA	1/23/2015 8:49	EB								
4	MS	4333-517-1.RevB	BA								
5	LO	C7									
6	SC		1	AF							
7	CH	JRM		CC							
8	IT		1	0.1873	inch	LN-LN002	0.188	0.005	-0.005	OK	5C
9	IT		2	0.5096	inch	LN-LN004	0.51	0.001	-0.001	OK	4D
10	IT		3	0.4344	inch	LN-LN005	0.435	0.001	-0.001	OK	50
11	IT		4	0.3606	inch	LN-LN003	0.36	0.005	-0.005	OK	54
12	IT		5	0.0452	inch	LN-LN006	0.045	0.002	-0.002	OK	4E
13	IT		6	0.0286	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	62
14	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
15	IT		8	0.289	inch	LN-LN014	0.29	0.002	-0.002	OK	5A
16	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
17	IT		10	0.2623	inch	LN-LN013	0.263	0.001	-0.001	OK	7A
18	IT		11	0.3123	inch	LN-LN010	0.3125	0.0005	-0.0005	OK	7C
19	IT		12	0.4083	inch	LN-LN011	0.409	0.005	-0.005	OK	86
20	IT		13	0.4165	inch	LN-LN012	0.417	0.001	-0.001	OK	80
21	EN	BF									
22	ST	D3									
23	SE	7C413005		3.52	8B						
24	DA	1/23/2015 8:51	DC								
25	MS	4333-517-1.RevB	BA								
26	LO	C7									
27	SC		2	B0							
28	CH	JRM		CC							
29	IT		1	0.1868	inch	LN-LN002	0.188	0.005	-0.005	OK	60
30	IT		2	0.5092	inch	LN-LN004	0.51	0.001	-0.001	OK	49
31	IT		3	0.4347	inch	LN-LN005	0.435	0.001	-0.001	OK	53
32	IT		4	0.3603	inch	LN-LN003	0.36	0.005	-0.005	OK	51
33	IT		5	0.045	inch	LN-LN006	0.045	0.002	-0.002	OK	4C
34	IT		6	0.0283	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	5F
35	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
36	IT		8	0.2892	inch	LN-LN014	0.29	0.002	-0.002	OK	5C
37	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
38	IT		10	0.2624	inch	LN-LN013	0.263	0.001	-0.001	OK	7B

# CMM Templates

## Keyence IM 6120

- Since it's a brand new template based on a \*.csv result file, we start by modifying the CSV.xml template



# CMM Templates

## Keyence IM 6120

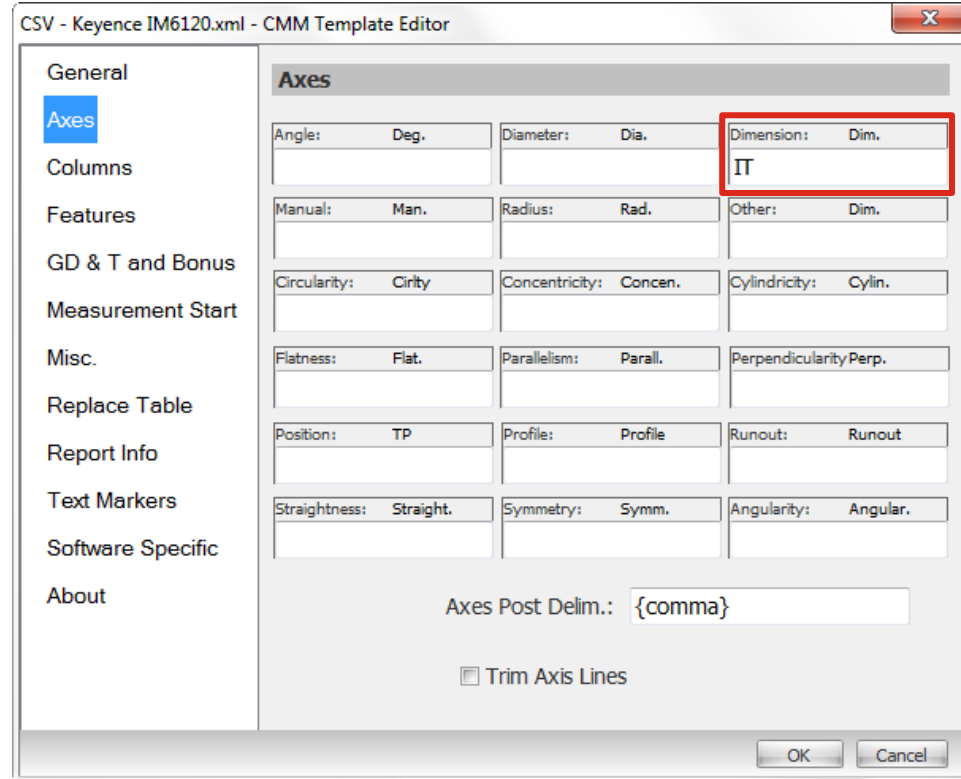
- Each result (in this case, only dimensions) is indicated by **IT**

	A	B	C	D	E	F	G	H	I	J	
1	ST	D3									
2	SE	7C413005		3.52	8B						
3	DA	1/23/2015 8:49	EB								
4	MS	4333-517-1.RevB	BA								
5	LO	C7									
6	SC		1	AF							
7	CH	JRM		CC							
8	IT		1	0.1873	inch	LN-LN002	0.188	0.005	-0.005	OK	5C
9	IT		2	0.5096	inch	LN-LN004	0.51	0.001	-0.001	OK	4D
10	IT		3	0.4344	inch	LN-LN005	0.435	0.001	-0.001	OK	50
11	IT		4	0.3606	inch	LN-LN003	0.36	0.005	-0.005	OK	54
12	IT		5	0.0452	inch	LN-LN006	0.045	0.002	-0.002	OK	4E
13	IT		6	0.0286	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	62
14	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
15	IT		8	0.289	inch	LN-LN014	0.29	0.002	-0.002	OK	5A
16	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
17	IT		10	0.2623	inch	LN-LN013	0.263	0.001	-0.001	OK	7A
18	IT		11	0.3123	inch	LN-LN010	0.3125	0.0005	-0.0005	OK	7C
19	IT		12	0.4083	inch	LN-LN011	0.409	0.005	-0.005	OK	86
20	IT		13	0.4165	inch	LN-LN012	0.417	0.001	-0.001	OK	80
21	EN	BF									
22	ST	D3									
23	SE	7C413005		3.52	8B						
24	DA	1/23/2015 8:51	DC								
25	MS	4333-517-1.RevB	BA								
26	LO	C7									
27	SC		2	B0							
28	CH	JRM		CC							
29	IT		1	0.1868	inch	LN-LN002	0.188	0.005	-0.005	OK	60
30	IT		2	0.5092	inch	LN-LN004	0.51	0.001	-0.001	OK	49
31	IT		3	0.4347	inch	LN-LN005	0.435	0.001	-0.001	OK	53
32	IT		4	0.3603	inch	LN-LN003	0.36	0.005	-0.005	OK	51
33	IT		5	0.045	inch	LN-LN006	0.045	0.002	-0.002	OK	4C
34	IT		6	0.0283	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	5F
35	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
36	IT		8	0.2892	inch	LN-LN014	0.29	0.002	-0.002	OK	5C
37	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
38	IT		10	0.2624	inch	LN-LN013	0.263	0.001	-0.001	OK	7B

# CMM Templates

## Keyence IM 6120

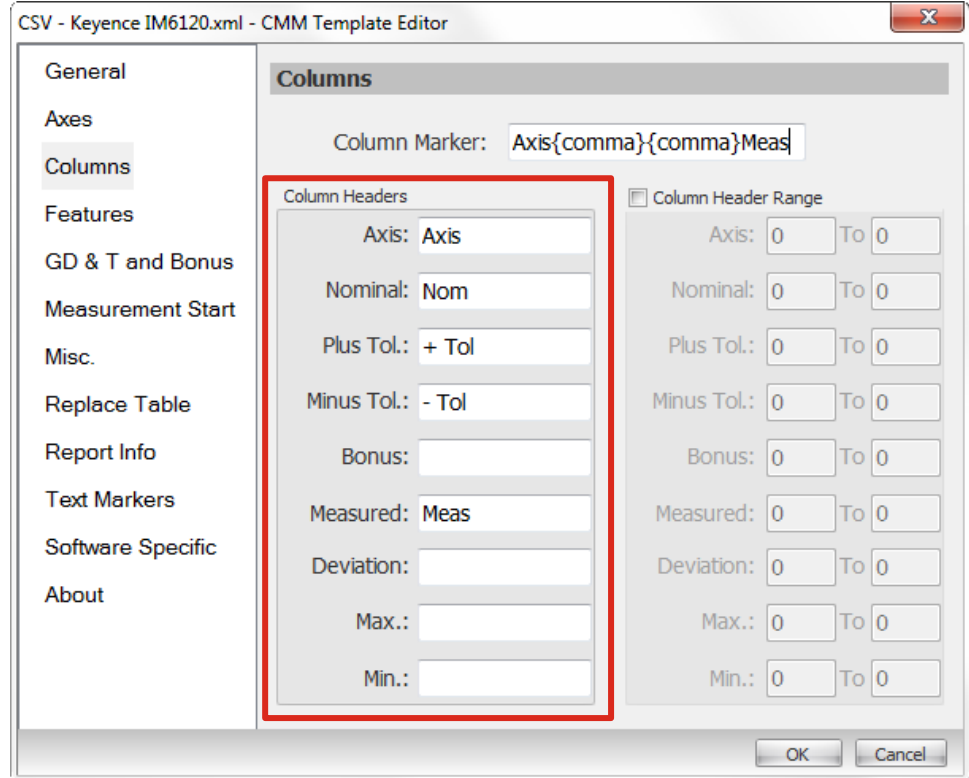
- Each result (in this case, only dimensions) is indicated by **IT**
- Dimensions, Angle, Diameter, etc... could be indicated by other denominators: X, Y, etc... in this case, it's a simple 2D CMM.



# CMM Templates

## Keyence IM 6120

- Column Headers need to be indicated to allow the software to parse the results





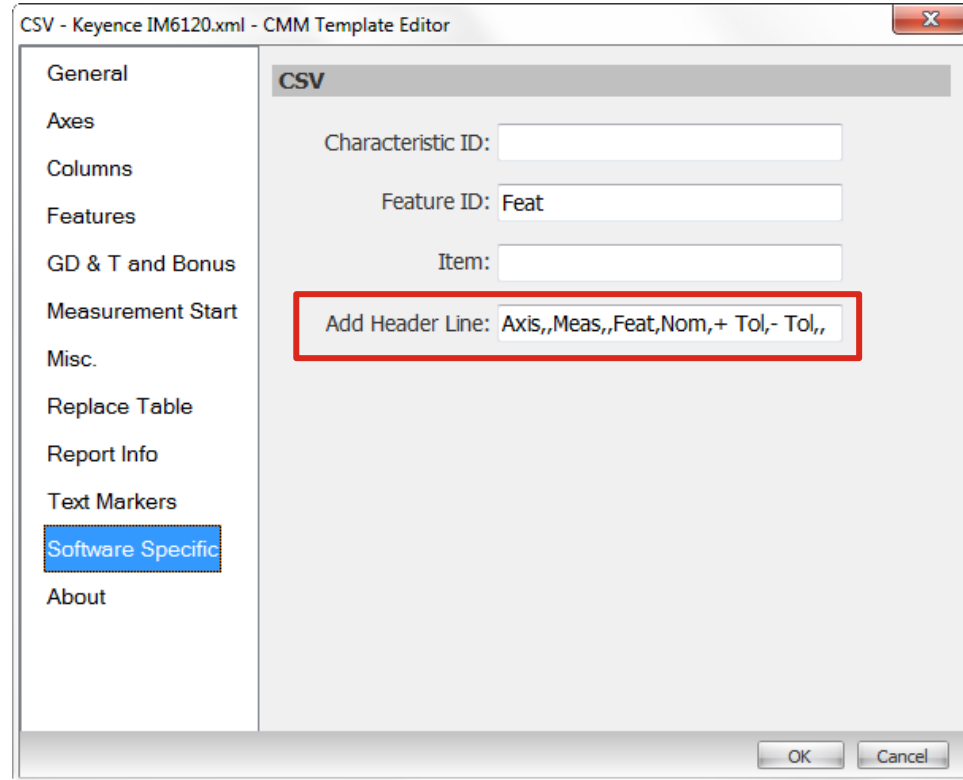
# CMM Templates

## Keyence IM 6120

- That's why they need to be specified in “software specific”
- The syntax need to match the one used in Columns
- **Axis,,Meas,,Feat,Nom,+ Tol,- Tol,,**

*Matches the “syntax” in the \*.csv file (if opened with a NotePad)*

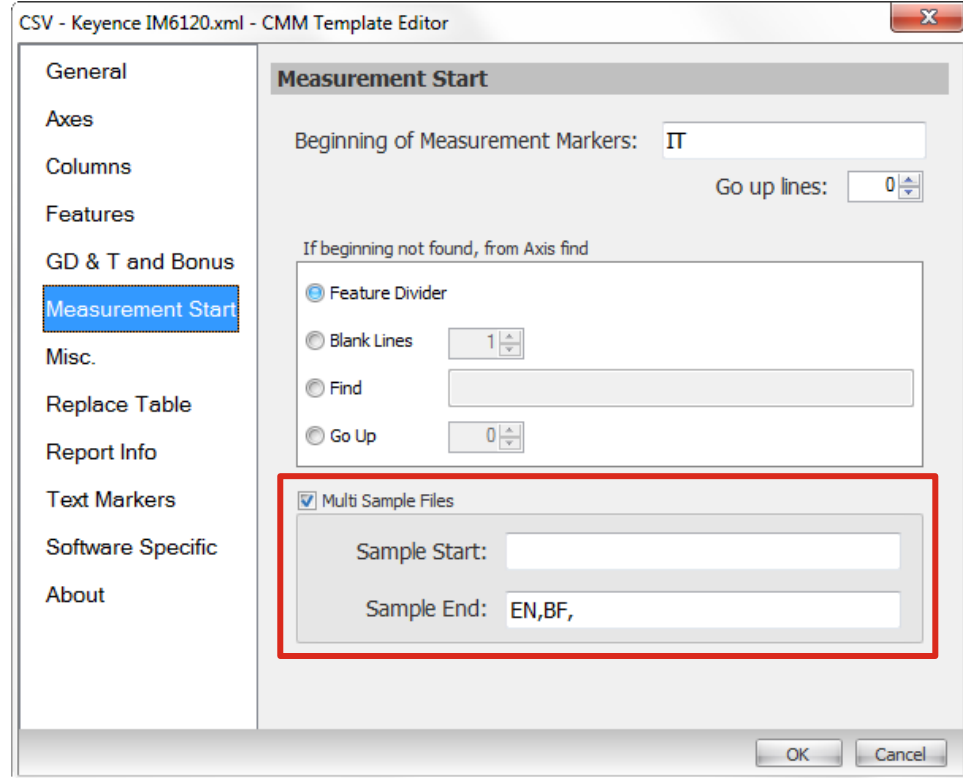
**IT,1,0.1873,inch,LN-  
LN002,0.1880,0.0050,-0.0050,OK,5C,**



# CMM Templates

## Keyence IM 6120

- Since they are multiple parts inspected per files (or samples), the “Multi Sample Files” is Checked and the **Sample End** is specified.



# CMM Templates

## Keyence IM 6120

- Since they are multiple parts inspected per files (or samples), the “Multi Sample Files” is Checked and the **Sample End** is specified.

	A	B	C	D	E	F	G	H	I	J	
1	ST	D3									
2	SE	7C413005		3.52	8B						
3	DA		1/23/2015 8:49	EB							
4	MS	4333-517-1.RevB	BA								
5	LO	C7									
6	SC		1	AF							
7	CH	JRM		CC							
8	IT		1	0.1873	inch	LN-LN002	0.188	0.005	-0.005	OK	5C
9	IT		2	0.5096	inch	LN-LN004	0.51	0.001	-0.001	OK	4D
10	IT		3	0.4344	inch	LN-LN005	0.435	0.001	-0.001	OK	50
11	IT		4	0.3606	inch	LN-LN003	0.36	0.005	-0.005	OK	54
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13	IT		6	0.0286	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	62
14	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
15	IT		8	0.289	inch	LN-LN014	0.29	0.002	-0.002	OK	5A
16	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
17	IT		10	0.2623	inch	LN-LN013	0.263	0.001	-0.001	OK	7A
18	IT		11	0.3123	inch	LN-LN010	0.3125	0.0005	-0.0005	OK	7C
19	IT		12	0.4083	inch	LN-LN011	0.409	0.005	-0.005	OK	86
20	IT		13	0.4165	inch	LN-LN012	0.417	0.001	-0.001	OK	80
21	EN	BF									
22	ST	D3									
23	SE	7C413005		3.52	8B						
24	DA		1/23/2015 8:51	DC							
25	MS	4333-517-1.RevB	BA								
26	LO	C7									
27	SC		2	B0							
28	CH	JRM		CC							
29	IT		1	0.1868	inch	LN-LN002	0.188	0.005	-0.005	OK	60
30	IT		2	0.5092	inch	LN-LN004	0.51	0.001	-0.001	OK	49
31	IT		3	0.4347	inch	LN-LN005	0.435	0.001	-0.001	OK	53
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34	IT		6	0.0283	inch	LN-LN007	0.0275	0.0015	-0.0015	OK	5F
35	IT		7	0.3123	inch	LN-LN008	0.3125	0.0005	-0.0005	OK	58
36	IT		8	0.2892	inch	LN-LN014	0.29	0.002	-0.002	OK	5C
37	IT		9	0.3123	inch	LN-LN009	0.3125	0.0005	-0.0005	OK	5B
38	IT		10	0.2624	inch	LN-LN013	0.263	0.001	-0.001	OK	7B

# CMM Templates

## PolyWorks

- \*.txt or \*.rtf file



**PolyWorks**<sup>®</sup>  
By InnovMetric Software Inc.

# CMM Templates

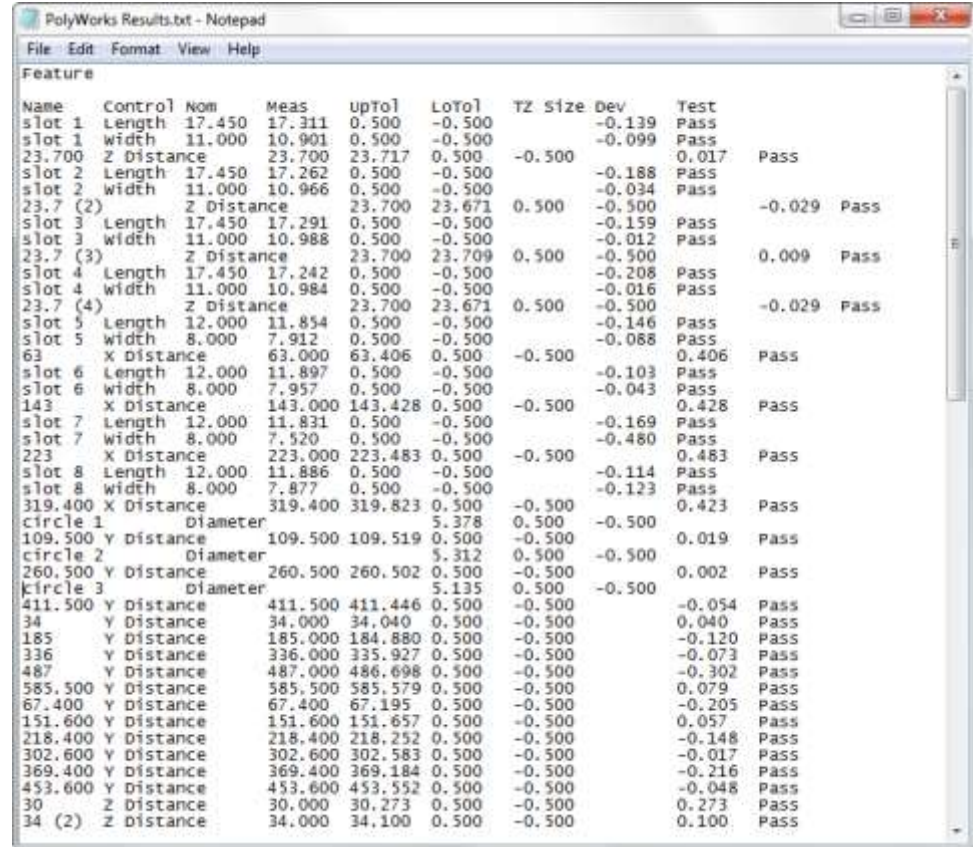
## PolyWorks

- Since we have a PolyWorks template, we start by copying and editing default PolyWorks.xml Template

# CMM Templates

## PolyWorks

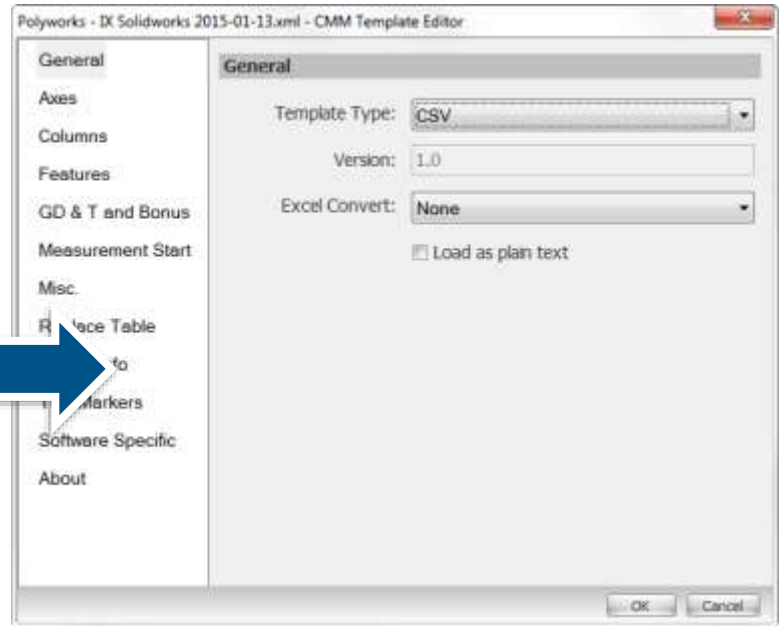
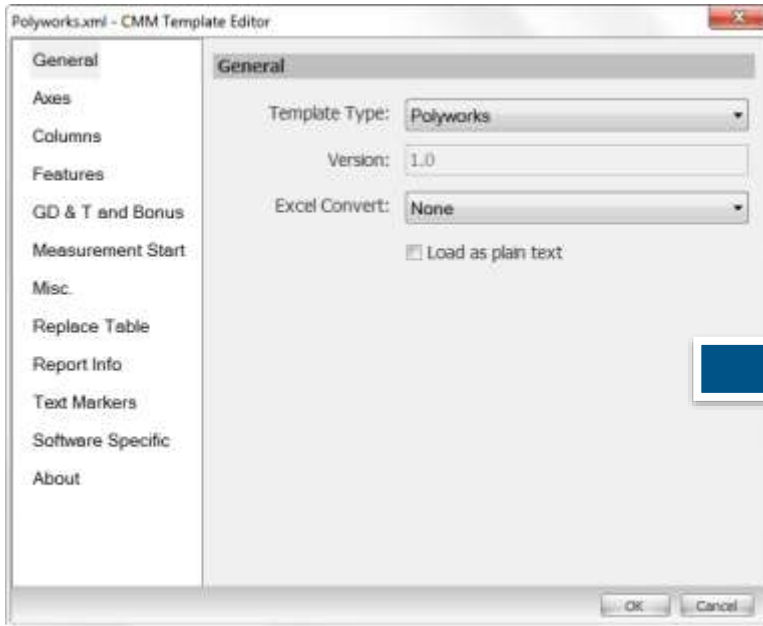
- The files appear to be exported as a CSV-tab delimited file type, as such the default PolyWorks.xml template need to be changed to use the CSV engine.



Feature	Name	Control	Nom	Meas	UpTo1	LoTo1	TZ	Size	Dev	Test	Pass
slot 1	Length	17.450	17.311	0.500	-0.500				-0.139	Pass	
23.700	width	11.000	10.901	0.500	-0.500				-0.099	Pass	
slot 2	Z Distance	23.700	23.717	0.500	-0.500	-0.500			0.017	Pass	Pass
23.7 (2)	Length	17.450	17.262	0.500	-0.500				-0.188	Pass	
slot 2	width	11.000	10.966	0.500	-0.500				-0.034	Pass	
23.7 (3)	Z Distance	23.700	23.671	0.500	-0.500	0.500			-0.500	Pass	-0.029 Pass
slot 3	Length	17.450	17.291	0.500	-0.500				-0.159	Pass	
slot 3	width	11.000	10.988	0.500	-0.500				-0.012	Pass	
23.7 (4)	Z Distance	23.700	23.709	0.500	-0.500	0.500			-0.500	Pass	0.009 Pass
slot 4	Length	17.450	17.242	0.500	-0.500				-0.208	Pass	
slot 4	width	11.000	10.984	0.500	-0.500				-0.016	Pass	
23.7 (4)	Z Distance	23.700	23.671	0.500	-0.500	0.500			-0.500	Pass	-0.029 Pass
slot 5	Length	12.000	11.854	0.500	-0.500				-0.146	Pass	
slot 5	width	8.000	7.912	0.500	-0.500				-0.088	Pass	
63	X Distance	63.000	63.406	0.500	-0.500	-0.500			0.406	Pass	Pass
slot 6	Length	12.000	11.897	0.500	-0.500				-0.103	Pass	
slot 6	width	8.000	7.957	0.500	-0.500				-0.043	Pass	
143	X Distance	143.000	143.428	0.500	-0.500	-0.500			0.428	Pass	Pass
slot 7	Length	12.000	11.831	0.500	-0.500				-0.169	Pass	
slot 7	width	8.000	7.520	0.500	-0.500				-0.480	Pass	
223	X Distance	223.000	223.483	0.500	-0.500	-0.500			0.483	Pass	Pass
slot 8	Length	12.000	11.886	0.500	-0.500				-0.114	Pass	
slot 8	width	8.000	7.877	0.500	-0.500				-0.123	Pass	
319.400	X Distance	319.400	319.823	0.500	-0.500	-0.500			0.423	Pass	Pass
circle 1	Diameter			5.378	0.500	-0.500			-0.500	Pass	
109.500	Y Distance	109.500	109.519	0.500	-0.500	-0.500			0.019	Pass	Pass
circle 2	Diameter			5.312	0.500	-0.500			-0.500	Pass	
260.500	Y Distance	260.500	260.502	0.500	-0.500	-0.500			0.002	Pass	Pass
circle 3	Diameter			5.135	0.500	-0.500			-0.500	Pass	
411.500	Y Distance	411.500	411.446	0.500	-0.500	-0.500			-0.054	Pass	Pass
34	Y Distance	34.000	34.040	0.500	-0.500	-0.500			0.040	Pass	Pass
185	Y Distance	185.000	184.880	0.500	-0.500	-0.500			-0.120	Pass	Pass
336	Y Distance	336.000	335.927	0.500	-0.500	-0.500			-0.073	Pass	Pass
487	Y Distance	487.000	486.698	0.500	-0.500	-0.500			-0.302	Pass	Pass
585.500	Y Distance	585.500	585.579	0.500	-0.500	-0.500			0.079	Pass	Pass
67.400	Y Distance	67.400	67.195	0.500	-0.500	-0.500			-0.205	Pass	Pass
151.600	Y Distance	151.600	151.657	0.500	-0.500	-0.500			0.057	Pass	Pass
218.400	Y Distance	218.400	218.252	0.500	-0.500	-0.500			-0.148	Pass	Pass
302.600	Y Distance	302.600	302.583	0.500	-0.500	-0.500			-0.017	Pass	Pass
369.400	Y Distance	369.400	369.184	0.500	-0.500	-0.500			-0.216	Pass	Pass
453.600	Y Distance	453.600	453.552	0.500	-0.500	-0.500			-0.048	Pass	Pass
30	Z Distance	30.000	30.273	0.500	-0.500	-0.500			0.273	Pass	Pass
34 (2)	Z Distance	34.000	34.100	0.500	-0.500	-0.500			0.100	Pass	Pass

# CMM Templates

## PolyWorks



# CMM Templates

## PolyWorks

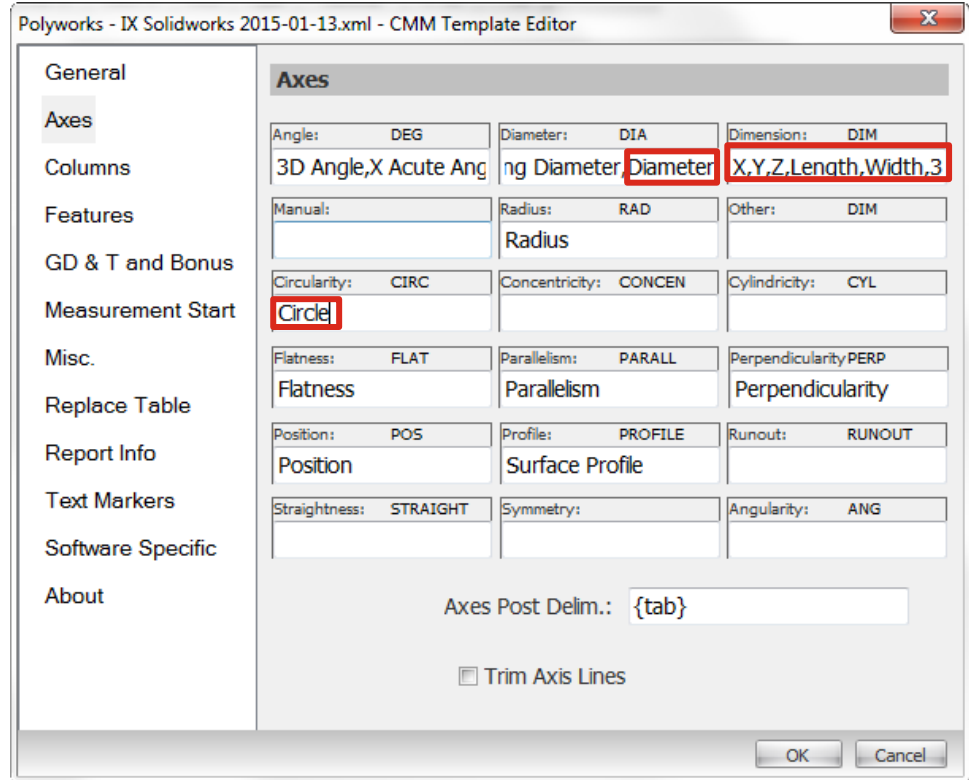
- The Axes appear to be correct

Feature	Name	Control	Nom	Meas	UpTo1	LoTo1	TZ	Size	Dev	Test	
slot 1	Length	17.450	17.311	0.500	-0.500				-0.139	Pass	
	width	11.000	10.901	0.500	-0.500				-0.099	Pass	
23.700 slot 2	Z Distance		23.700	23.717	0.500		-0.500		0.017	Pass	
	Length	17.450	17.262	0.500	-0.500				-0.188	Pass	
23.7 (2) slot 2	width	11.000	10.966	0.500	-0.500				-0.034	Pass	
	Z Distance		23.700	23.671	0.500		0.500		-0.500		-0.029 Pass
slot 3	Length	17.450	17.291	0.500	-0.500				-0.159	Pass	
	width	11.000	10.988	0.500	-0.500				-0.012	Pass	
23.7 (3) slot 4	Z Distance		23.700	23.709	0.500		0.500		-0.500		0.009 Pass
	Length	17.450	17.242	0.500	-0.500				-0.208	Pass	
23.7 (4) slot 4	width	11.000	10.984	0.500	-0.500				-0.016	Pass	
	Z Distance		23.700	23.671	0.500		0.500		-0.500		-0.029 Pass
slot 5	Length	12.000	11.854	0.500	-0.500				-0.146	Pass	
	width	8.000	7.912	0.500	-0.500				-0.088	Pass	
63 slot 6	X Distance		63.000	63.406	0.500		-0.500		0.406	Pass	
	Length	12.000	11.897	0.500	-0.500				-0.103	Pass	
slot 6	width	8.000	7.957	0.500	-0.500				-0.043	Pass	
	X Distance		143.000	143.428	0.500		-0.500		0.428	Pass	
143 slot 7	Length	12.000	11.831	0.500	-0.500				-0.169	Pass	
	width	8.000	7.520	0.500	-0.500				-0.480	Pass	
223 slot 8	X Distance		223.000	223.483	0.500		-0.500		0.483	Pass	
	Length	12.000	11.886	0.500	-0.500				-0.114	Pass	
slot 8	width	8.000	7.877	0.500	-0.500				-0.123	Pass	
	X Distance		319.400	319.823	0.500		-0.500		0.423	Pass	
319.400 circle 1	Diameter						0.500		5.378		
	Y Distance		109.500	109.519	0.500		-0.500		0.019	Pass	
109.500 circle 2	Diameter						0.500		5.312		
	X Distance		260.500	260.502	0.500		-0.500		0.002	Pass	
260.500 circle 3	Diameter						0.500		5.135		
	Y Distance		411.500	411.446	0.500		-0.500		-0.054	Pass	
411.500 34	Y Distance		34.000	34.040	0.500		-0.500		0.040	Pass	
	Y Distance		185.000	184.880	0.500		-0.500		-0.120	Pass	
185 336	Y Distance		336.000	335.927	0.500		-0.500		-0.073	Pass	
	Y Distance		487.000	486.698	0.500		-0.500		-0.302	Pass	
487 585.500	Y Distance		585.500	585.579	0.500		-0.500		0.079	Pass	
	Y Distance		67.400	67.195	0.500		-0.500		-0.205	Pass	
67.400 151.600	Y Distance		151.600	151.657	0.500		-0.500		0.057	Pass	
	Y Distance		218.400	218.252	0.500		-0.500		-0.148	Pass	
218.400 302.600	Y Distance		302.600	302.583	0.500		-0.500		-0.017	Pass	
	Y Distance		369.400	369.184	0.500		-0.500		-0.216	Pass	
369.400 453.600	Y Distance		453.600	453.552	0.500		-0.500		-0.048	Pass	
	Z Distance		30.000	30.273	0.500		-0.500		0.273	Pass	
30 34 (2)	Z Distance		34.000	34.100	0.500		-0.500		0.100	Pass	

# CMM Templates

## PolyWorks

- The Axes appear to be correct

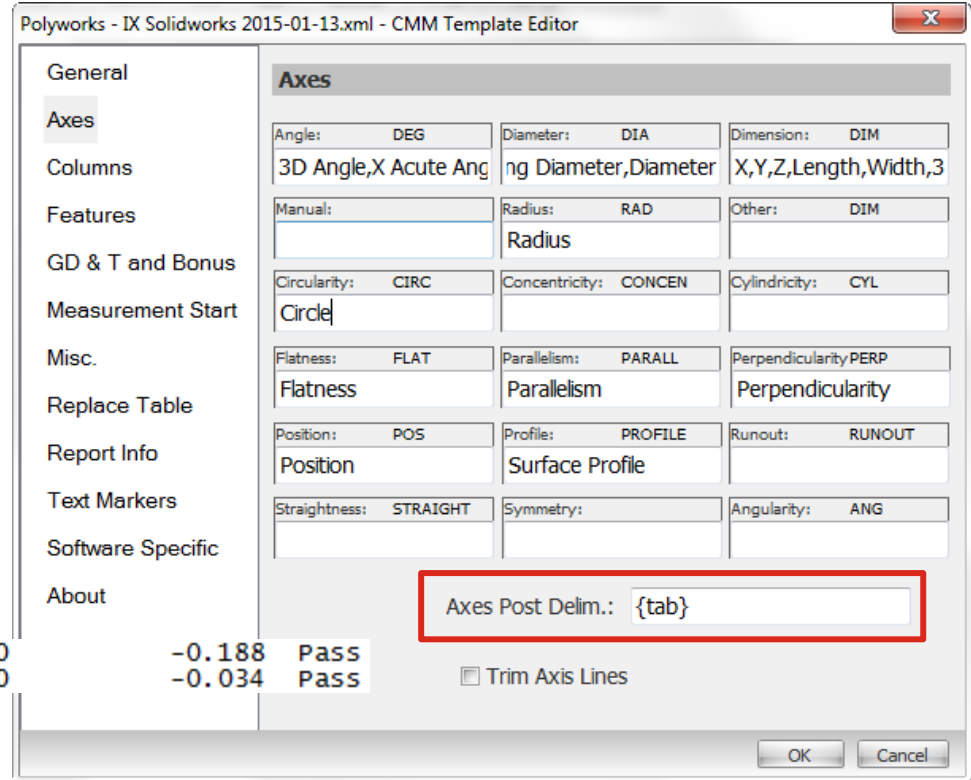


# CMM Templates

## PolyWorks

- The delimiter however had to be changed to **{tab}** since each value is separated this way in the \*.txt file.

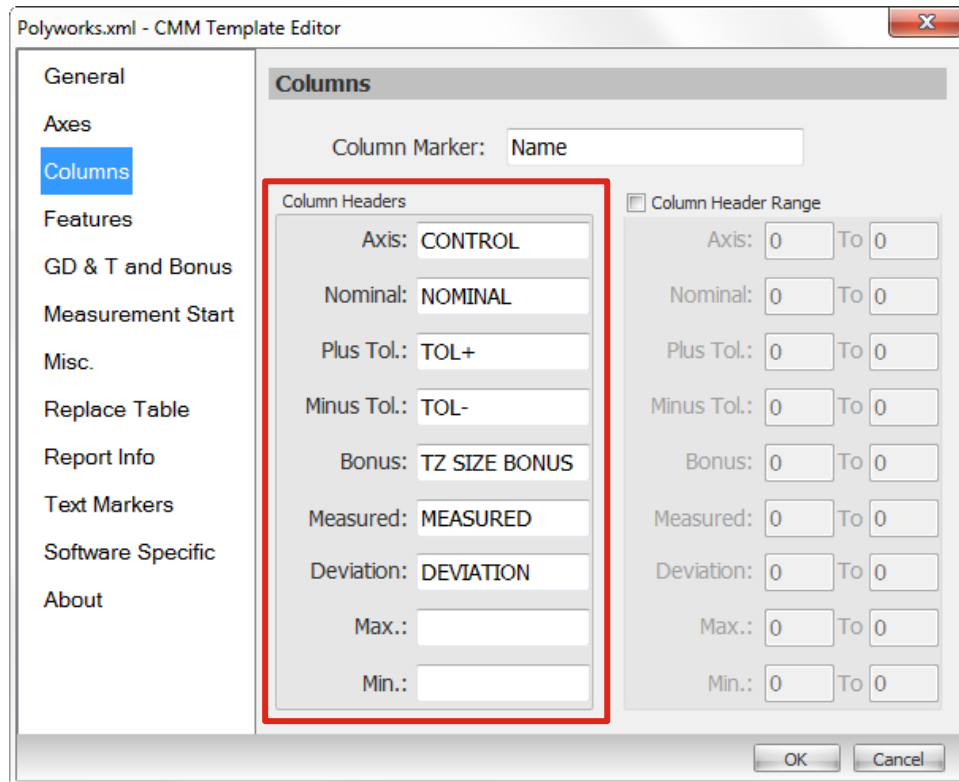
slot 2	Length	17.450	17.262	0.500	-0.500	-0.188	Pass
slot 2	width	11.000	10.966	0.500	-0.500	-0.034	Pass



# CMM Templates

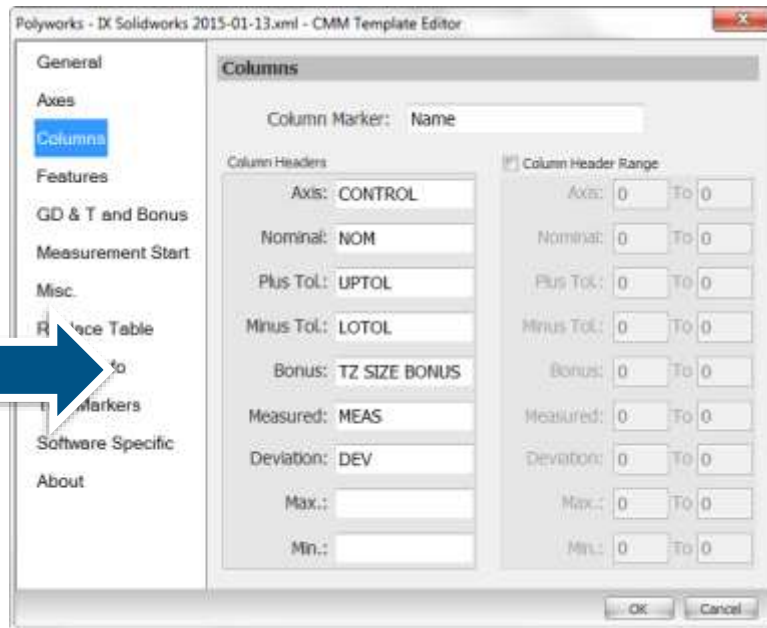
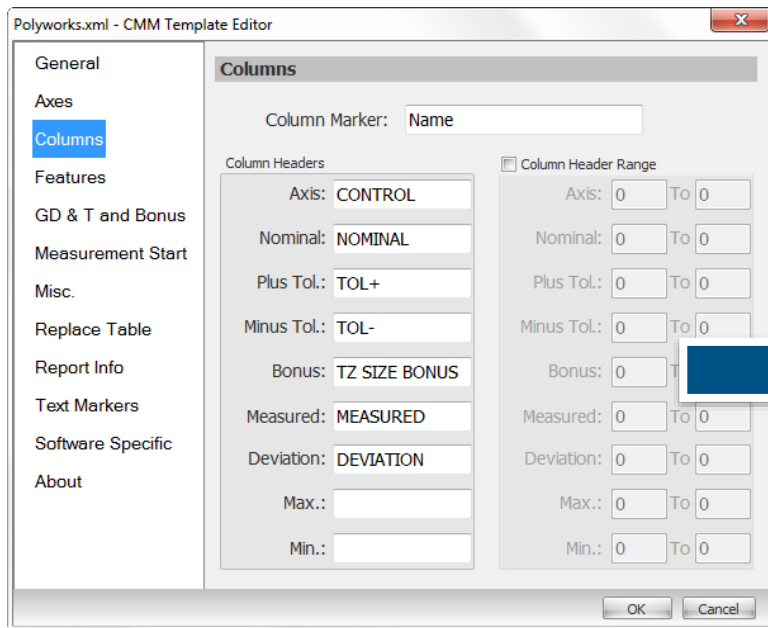
## PolyWorks

- Column Headers are incorrect and need to be updated



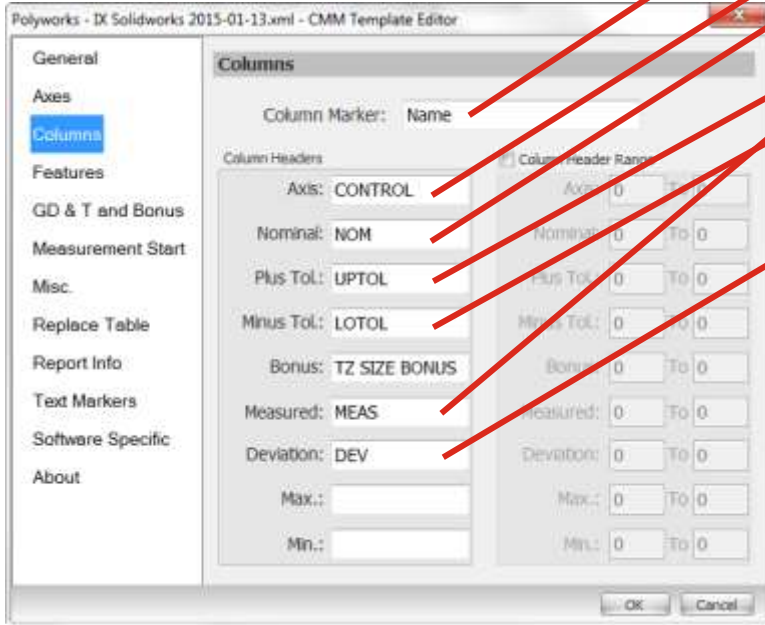
# CMM Templates

## PolyWorks



# CMM Templates

PolyWorks



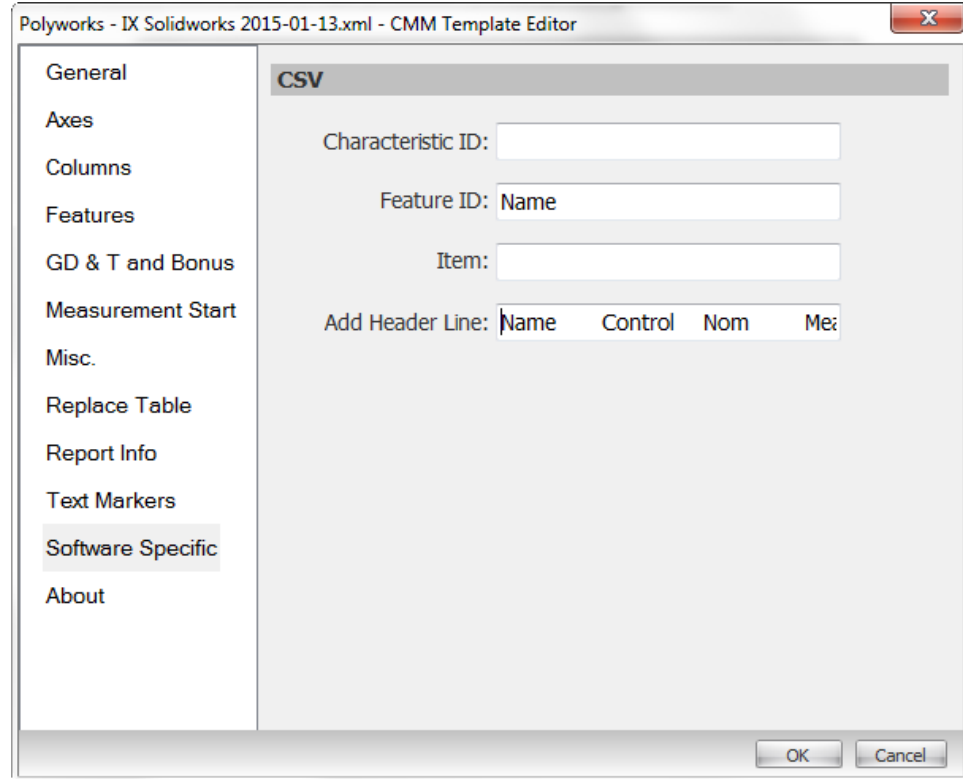
The screenshot shows a Notepad window titled 'PolyWorks Results.txt - Notepad'. The data is organized into columns that correspond to the template editor. Red arrows point from the template editor fields to the corresponding columns in the results file.

Feature	Name	Control	Nom	Meas	UpTo1	LoTo1	TZ	Size	Dev	Test	
slot 1	Length	17.450	17.310	0.500	-0.500				-0.139	Pass	
slot 2	width	11.000	10.901	0.500	-0.500				-0.099	Pass	
23.700	Z Distance		23.700	23.717	0.500		0.500		0.017	Pass	
slot 2	Length	17.450	17.260	0.500	-0.500				-0.188	Pass	
slot 2	width	11.000	10.966	0.500	-0.500				-0.034	Pass	
23.7 (2)	Z Distance		23.700	23.671	0.500		0.500		-0.500	-0.029	Pass
slot 3	Length	17.450	17.291	0.500	-0.500				-0.159	Pass	
slot 3	width	11.000	10.988	0.500	-0.500				-0.012	Pass	
23.7 (3)	Z Distance		23.700	23.709	0.500		0.500		-0.500	0.009	Pass
slot 4	Length	17.450	17.242	0.500	-0.500				-0.208	Pass	
slot 4	width	11.000	10.984	0.500	-0.500				-0.016	Pass	
23.7 (4)	Z Distance		23.700	23.671	0.500		0.500		-0.500	-0.029	Pass
slot 5	Length	12.000	11.854	0.500	-0.500				-0.146	Pass	
slot 5	width	8.000	7.912	0.500	-0.500				-0.088	Pass	
63	X Distance		63.000	63.406	0.500		-0.500		0.406	Pass	
slot 6	Length	12.000	11.897	0.500	-0.500				-0.103	Pass	
slot 6	width	8.000	7.957	0.500	-0.500				-0.043	Pass	
143	X Distance		143.000	143.428	0.500		-0.500		0.428	Pass	
slot 7	Length	12.000	11.831	0.500	-0.500				-0.169	Pass	
slot 7	width	8.000	7.520	0.500	-0.500				-0.480	Pass	
223	X Distance		223.000	223.483	0.500		-0.500		0.483	Pass	
slot 8	Length	12.000	11.886	0.500	-0.500				-0.114	Pass	
slot 8	width	8.000	7.877	0.500	-0.500				-0.123	Pass	
319.400	X Distance		319.400	319.823	0.500		-0.500		0.423	Pass	
circle 1	Diameter			5.378	0.500		-0.500		-0.500		
109.500	Y Distance		109.500	109.519	0.500		-0.500		0.019	Pass	
circle 2	Diameter			5.312	0.500		-0.500		-0.500		
260.500	Y Distance		260.500	260.502	0.500		-0.500		0.002	Pass	
circle 3	Diameter			5.135	0.500		-0.500		-0.500		
411.500	Y Distance		411.500	411.446	0.500		-0.500		-0.054	Pass	
34	Y Distance		34.000	34.040	0.500		-0.500		0.040	Pass	
185	Y Distance		185.000	184.880	0.500		-0.500		-0.120	Pass	
336	Y Distance		336.000	335.927	0.500		-0.500		-0.073	Pass	
487	Y Distance		487.000	486.698	0.500		-0.500		-0.302	Pass	
585.500	Y Distance		585.500	585.579	0.500		-0.500		0.079	Pass	
67.400	Y Distance		67.400	67.195	0.500		-0.500		-0.205	Pass	
151.600	Y Distance		151.600	151.657	0.500		-0.500		0.057	Pass	
218.400	Y Distance		218.400	218.252	0.500		-0.500		-0.148	Pass	
302.600	Y Distance		302.600	302.583	0.500		-0.500		-0.017	Pass	
369.400	Y Distance		369.400	369.184	0.500		-0.500		-0.216	Pass	
453.600	Y Distance		453.600	453.552	0.500		-0.500		-0.048	Pass	
30	Z Distance		30.000	30.273	0.500		-0.500		0.273	Pass	
34 (2)	Z Distance		34.000	34.100	0.500		-0.500		0.100	Pass	

# CMM Templates

## PolyWorks

- Column headers are re-specified here as well as Feature ID



# CMM Templates

## Calypso

- All the templates provided are generated and formatted with **English** values stored for the Axes identifiers.
- Users in non-English locales might need to add their **language specific terms**.
- Editing the Axes identifiers is also necessary from time to time when CMM programmers come up with unique terminology to identify annotation types.

# CMM Templaeets

## Calypso

- Sometimes visualizing the columns is difficult in \*.txt format as some of them “shift”.
- Try to open the \*.txt in MS Excel to clearly identify column headers, axes identifiers, etc...

```
Calypso.txt - Notepad
File Edit Format View Help
partid partnb id type idsymbol actual nominal uppertol lowertol gdtFlat deviation exceed featureid fe...
116403 GEHAUEISE RG-M 8-fach 24 DIN Eberheit_Bezug 8_INFO DIN Eberheit gdtFlat 0.1508249 0.0000000 0.4000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis1_INFO Durchmesser diameter 6.0611943 6.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis2_INFO Durchmesser diameter 6.0750499 6.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz1_V Distanz distanceZd 99.9527175 100.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis5_INFO Durchmesser diameter 7.0108024 7.0000000 999.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis6_INFO Durchmesser diameter 7.0015114 7.0000000 999.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis7_INFO Durchmesser diameter 6.9922715 7.0000000 999.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis8_INFO Durchmesser diameter 6.9872054 7.0000000 999.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis9_INFO Durchmesser diameter 23.4634800 23.7000000 999.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis11_INFO Durchmesser diameter 23.6640996 23.7000000 99
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis10 Durchmesser diameter 19.4690174 19.0000000 0.5000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis12 Durchmesser diameter 19.5569325 19.0000000 0.5000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis13_INFO Durchmesser diameter 3.7079556 6.0000000 99
116403 GEHAUEISE RG-M 8-fach 24 Distanz2_Y Distanz distanceZd 100.0206197 100.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz3_Y Distanz distanceZd 99.9419692 100.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz11_X Distanz distanceZd 49.9192686 50.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz14_X Distanz distanceZd 49.9294899 50.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz4_Y Distanz distanceZd 40.0211738 40.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz5_Y Distanz distanceZd 40.0804270 40.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 Y-wert_Symmetrie2 Y-wert yvalue -0.0047552 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie2 DIN_Symmetrie gdtSym 0.0005105 0.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 Y-wert_Symmetrie3 Y-wert yvalue 0.0023601 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie3 DIN_Symmetrie gdtSym 0.0047203 0.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 Y-wert_Symmetrie4 Y-wert yvalue 0.0348673 0.0500000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie4 DIN_Symmetrie gdtSym 0.0697347 0.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie5 DIN_Symmetrie gdtSym 0.0324790 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Y-wert_Kreis13 Y-wert yvalue 0.0380956 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie_Kr13 DIN_Symmetrie gdtSym 0.0721913 0.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt1 Z-wert zvalue -0.1987146 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt2 Z-wert zvalue -0.1484250 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt3 Z-wert zvalue -0.2706983 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt4 Z-wert zvalue -0.2676436 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt5 Z-wert zvalue -0.3921557 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Z-wert_Punkt6 Z-wert zvalue -0.3163347 -0.2000000 0.0000000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis14 Durchmesser diameter 7.9404769 8.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Y-wert_Kreis14 Y-wert yvalue 0.0423392 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Symmetrie1 DIN_Symmetrie gdtSym 0.0846785 0.0000000 0.2000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Eberheit_Bezug A_INFO DIN_Eberheit gdtFlat 0.0855599 0.0000000 0.4000000
116403 GEHAUEISE RG-M 8-fach 24 DIN_Rechtwinkligkeit1 DIN_Rechtwinkligkeit gdtPerp 0.2003226 0.0000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz_kart.1 Distanz kart. distanceCart 18.0116814 18.0000000 0.1400000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis15 Durchmesser diameter 8.2011862 8.1000000 0.1000000
116403 GEHAUEISE RG-M 8-fach 24 Distanz_kart.2 Distanz kart. distanceCart 17.8896825 18.0000000 0.1400000
116403 GEHAUEISE RG-M 8-fach 24 Durchmesser_Kreis16 Durchmesser diameter 8.2097464 8.1000000 0.1000000
```

# CMM Templates

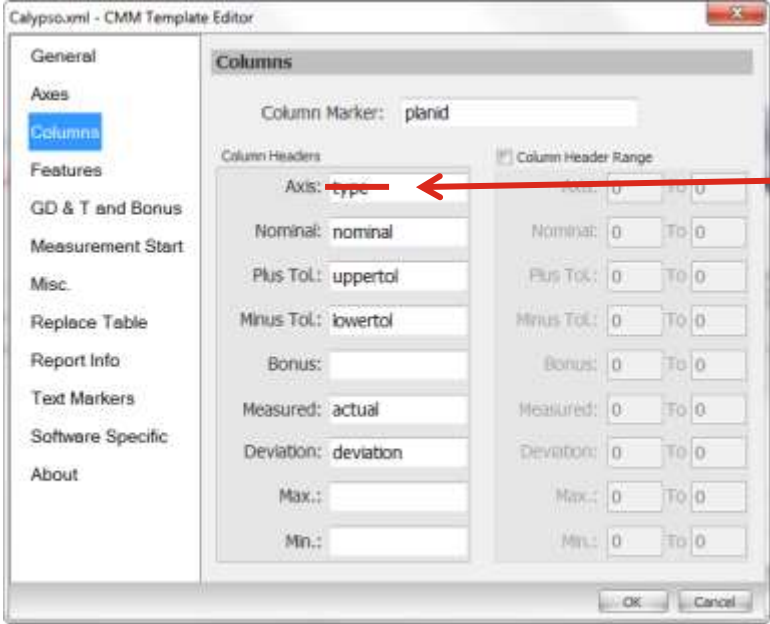
## Calypso

- Column Headers
- Axes (idsymbol)

A	B	C	D	E	F	G	H	I	J	
planid	partnb	id	type	idsymbol	actual	nominal	uppertol	lowertol	deviation	
116403	GEHAEUSE RG-M 8-fach	24	DIN Ebenheit_Bezug B_INFO	DIN Ebenheit	gdtFlat	0.1508249	0	0.4	0	0.1508249
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis1_INFO	Durchmesser	diameter	6.0631943	6	0.1	-0.1	0.0631943
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis2_INFO	Durchmesser	diameter	6.0750499	6	0.1	-0.1	0.0750499
116403	GEHAEUSE RG-M 8-fach	24	Distanz1_Y	Distanz	distance2d	99.9527175	100	0.1	-0.1	-0.0472825
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis5_INFO	Durchmesser	diameter	7.0108024	7	999	-0.2	0.0108024
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis6_INFO	Durchmesser	diameter	7.0015154	7	999	-0.2	0.0015154
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis7_INFO	Durchmesser	diameter	6.9922715	7	999	-0.2	-0.0077285
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis8_INFO	Durchmesser	diameter	6.9872054	7	999	-0.2	-0.0127946
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis9_INFO	Durchmesser	diameter	23.66348	23.7	999	-0.3	-0.03652
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis11_INFO	Durchmesser	diameter	23.6640996	23.7	999	-0.3	-0.0359004
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis10	Durchmesser	diameter	19.4690174	19	0.5	-999	0.4690174
116403	GEHAEUSE RG-M 8-fach	24	Durchmesser_Kreis12	Durchmesser	diameter	19.5569325	19	0.5	-999	0.5569325

# CMM Templates

## Calypso



idsymbol

# CMM Templates

## Open DMIS

```

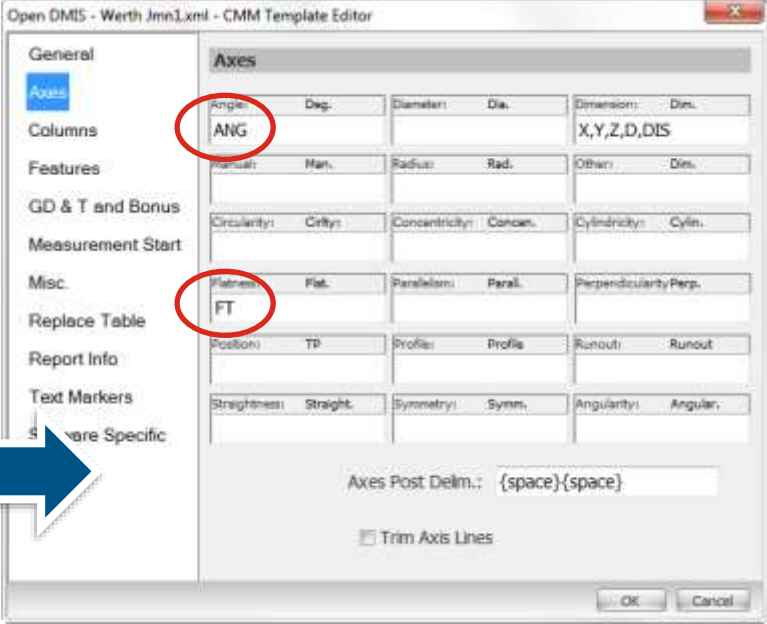
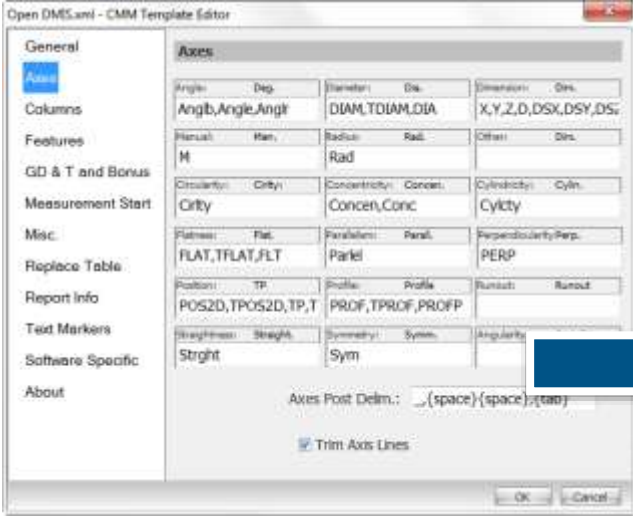
##### Start Automatique: C:\SEQUENCES\KMS\MECANIQUE\YMM-2 28 002-240 Rev-G- Dessus optique et Palpeurs 2015
NOUVELLE_PIECE
Palpeur spherique dia 0.6814442
FT 0.0039 0.0000 0.0050 0.0000 0.0039 +
X 37.5387 37.5400 0.0000 -0.0050 -0.0013 ++ H2_37_54_PALS
Y 78.0084 78.0000 0.0000 -0.0050 0.0084 0.0084 >>>> I5_78_PALS
FT 0.0010 0.0000 0.0050 0.0000 0.0010 + Flat_P1_FERM_PALS
Z 0.8179 0.8200 0.0000 -0.0020 -0.0021 -0.0001 <<<< K2_0.820_PALS
D 1.8005 1.8000 0.0040 0.0000 0.0005 ---- 42_0
FT 0.0016 0.0000 0.0100 0.0000 0.0016 + 42_FT
X -16.4274 16.4238 0.0100 -0.0100 0.0037 ++ 42_X-p
Y 10.4993 10.5000 0.0100 -0.0100 -0.0007 - 42_Y-p
X 0.0075 0.0000 0.0200 0.0000 0.0075 - 42_Loc-p
D 1.8003 1.8000 0.0040 0.0000 0.0003 ---- 44_0
FT 0.0015 0.0000 0.0100 0.0000 0.0015 + 44_FT
X -11.7347 11.7312 0.0100 -0.0100 0.0034 ++ 44_X-p
Y 10.4998 10.5000 0.0100 -0.0100 -0.0002 - 44_Y-p
X 0.0069 0.0000 0.0200 0.0000 0.0069 -- 44_Loc-p
D 1.8004 1.8000 0.0040 0.0000 0.0004 ---- 45_0
FT 0.0014 0.0000 0.0100 0.0000 0.0014 + 45_FT
X -7.0425 7.0388 0.0100 -0.0100 0.0037 ++ 45_X-p
Y -10.5009 10.5000 0.0100 -0.0100 0.0009 + 45_Y-p
X 0.0076 0.0000 0.0200 0.0000 0.0076 - 45_Loc-p
D 1.8004 1.8000 0.0040 0.0000 0.0004 ---- 47_0
FT 0.0016 0.0000 0.0100 0.0000 0.0016 + 47_FT
X -2.3492 2.3462 0.0100 -0.0100 0.0029 ++ 47_X-p
Y -10.5009 10.5000 0.0100 -0.0100 0.0009 + 47_Y-p
X 0.0062 0.0000 0.0200 0.0000 0.0062 -- 47_Loc-p
D 1.8006 1.8000 0.0040 0.0000 0.0006 --- 50_0
FT 0.0019 0.0000 0.0100 0.0000 0.0019 + 50_FT
X 2.3434 2.3462 0.0100 -0.0100 -0.0029 -- 50_X-p
Y 10.5005 10.5000 0.0100 -0.0100 0.0005 + 50_Y-p
X 0.0058 0.0000 0.0200 0.0000 0.0058 --- 50_Loc-p
D 1.8008 1.8000 0.0040 0.0000 0.0008 ---- 52_0
FT 0.0021 0.0000 0.0100 0.0000 0.0021 + 52_FT
X 7.0356 7.0388 0.0100 -0.0100 -0.0031 -- 52_X-p
Y 10.4997 10.5000 0.0100 -0.0100 -0.0003 - 52_Y-p
X 0.0063 0.0000 0.0200 0.0000 0.0063 -- 52_Loc-p
D 1.8007 1.8000 0.0040 0.0000 0.0007 --- 53_0
FT 0.0014 0.0000 0.0100 0.0000 0.0014 + 53_FT

```

# CMM Templates

## Open DMIS

- Axes needs to be changed to match result file



# CMM Templates

## Open DMIS

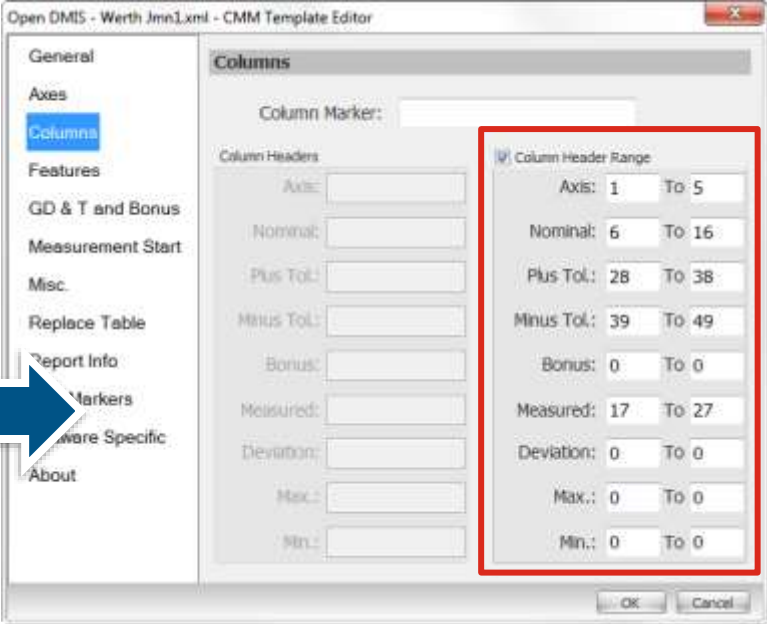
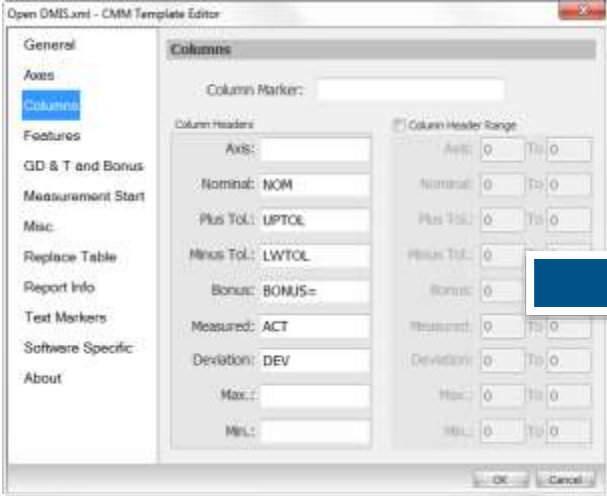
- Column are not separated by “Tabulations” but simply “Spaces”
- This is fixed by defining a “range”

Emp 2-7									
X	0.9718	0.9738	0.0000	-0.0040	-0.0020				K2_0.9738_PALC
X	-0.0045	0.0000	0.0020	-0.0020	-0.0045	-0.0025	<<<<	+	K2_0.9738_Loc_PALC
Ang	15.0297*	15.0000*	0.5000*	-0.5000*	0.0297*			+	L2_15_Deg_PALC
X	0.7974	0.8000	0.0000	-0.0040	-0.0026		--		L1_0.8_FERM_PALC
X	-0.0039	0.0000	0.0020	-0.0020	-0.0039	-0.0019	<<<<		L1_0.8_FERM_Loc_PAL
X	0.8399	0.8435	0.0000	-0.0040	-0.0036		----		FERM_Haut_PALC
X	-0.0042	0.0000	0.0020	-0.0020	-0.0042	-0.0022	<<<<		FERM_Haut_Loc_PALC
X	0.8921	0.8955	0.0000	-0.0040	-0.0034		----		FERM_milieu_PALC
X	-0.0041	0.0000	0.0020	-0.0020	-0.0041	-0.0021	<<<<		FERM_milieu_Loc_PAL
X	0.9441	0.9475	0.0000	-0.0040	-0.0034		----		FERM_Bas_PALC
X	-0.0043	0.0000	0.0020	-0.0020	-0.0043	-0.0023	<<<<		FERM_Bas_Loc_PALC
X	-0.0023	0.0000	0.0100	-0.0100	-0.0023		-		L4_D0.6H5_AV_X_PALC
Y	-1.4314	1.4300	0.0100	-0.0100	0.0014			+	L4_D0.6H5_AV_Y_PALC
D	0.6011	0.6000	0.0040	0.0000	0.0011		--		L4_D0.6H5_AV_PALC
FT	0.0015	0.0000	0.0040	0.0000	0.0015			++	L4_D0.6H5_AV_Fd_PAL
Dis	0.0027	0.0000	0.0100	-0.0100	0.0027			++	L4_D0.6H5_AV_Loc_PA
X	-0.0024	0.0000	0.0100	-0.0100	-0.0024		-		L4_D0.6H5_AR_X_PALC
Y	1.4284	1.4300	0.0100	-0.0100	-0.0016		-		L4_D0.6H5_AR_Y_PALC
D	0.6023	0.6000	0.0040	0.0000	0.0023			+	L4_D0.6H5_AR_PALC
FT	0.0008	0.0000	0.0040	0.0000	0.0008			+	L4_D0.6H5_AR_Fd_PAL
Dis	0.0029	0.0000	0.0100	-0.0100	0.0029			++	L4_D0.6H5_AR_Loc_PA

# CMM Templates

## Open DMIS

- Column Headers defined using a Range

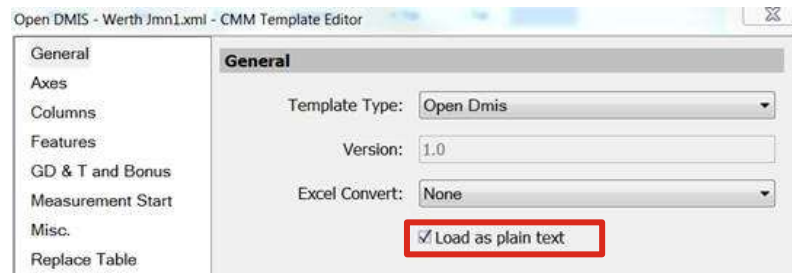
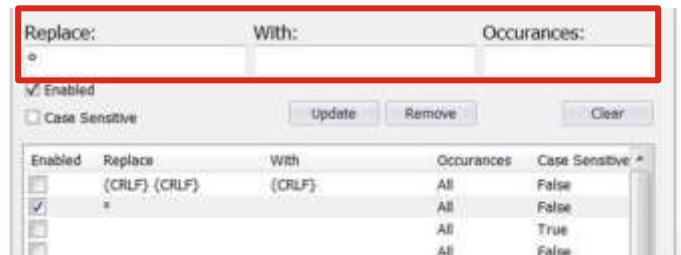


# CMM Templates

## Open DMIS

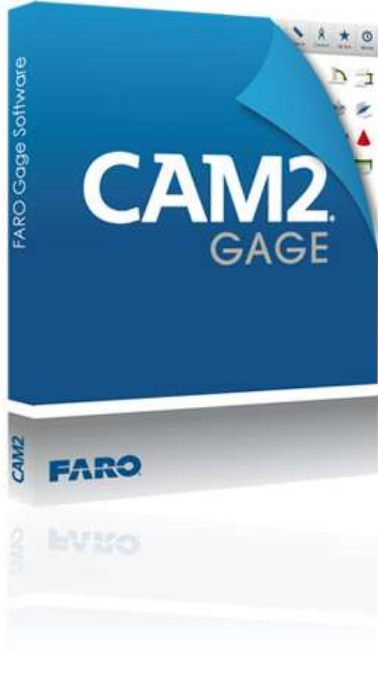
- To remove the degree “°” symbols, use the replace table
- To replace the unicode characters, the “load as plain text” option need to be checked

Emp 2-7										
X	0.9718	0.9738	0.0000	-0.0040	-0.0020				+	K2_0.
X	-0.0045	0.0000	0.0020	-0.0020	-0.0045	-0.0025	<<<<			K2_0.
Ang	15.0297	15.0000°	0.5000°	-0.5000°	0.0297°				+	L2_15
X	0.7974	0.8000	0.0000	-0.0040	-0.0026				--	L1_0.
X	-0.0039	0.0000	0.0020	-0.0020	-0.0039	-0.0019	<<<<			L1_0.
X	0.8399	0.8435	0.0000	-0.0040	-0.0036				----	FERM_
X	-0.0042	0.0000	0.0020	-0.0020	-0.0042	-0.0022	<<<<			FERM_
X	0.8921	0.8955	0.0000	-0.0040	-0.0034				----	FERM_
X	-0.0041	0.0000	0.0020	-0.0020	-0.0041	-0.0021	<<<<			FERM_
X	0.9441	0.9475	0.0000	-0.0040	-0.0034				----	FERM_
X	-0.0043	0.0000	0.0020	-0.0020	-0.0043	-0.0023	<<<<			FERM_
X	-0.0023	0.0000	0.0100	-0.0100	-0.0023				-	L4_D0
Y	-1.4314	1.4300	0.0100	-0.0100	0.0014				+	L4_D0
D	0.6011	0.6000	0.0040	0.0000	0.0011				--	L4_D0
FT	0.0015	0.0000	0.0040	0.0000	0.0015				++	L4_D0
D1s	0.0027	0.0000	0.0100	-0.0100	0.0027				++	L4_D0
X	-0.0024	0.0000	0.0100	-0.0100	-0.0024				-	L4_D0
Y	1.4284	1.4300	0.0100	-0.0100	-0.0016				-	L4_D0
D	0.6023	0.6000	0.0040	0.0000	0.0023				+	L4_D0
FT	0.0008	0.0000	0.0040	0.0000	0.0008				+	L4_D0
D1s	0.0029	0.0000	0.0100	-0.0100	0.0029				++	L4_D0



# CMM Templates

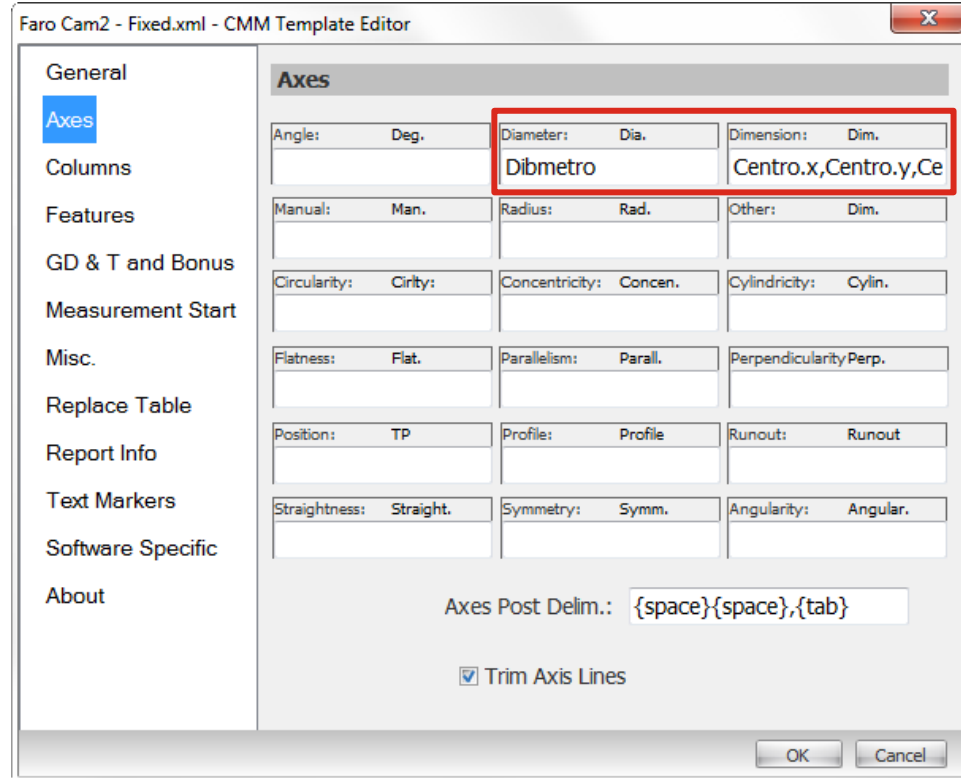
## Faro Cam2



# CMM Templates

## Faro Cam2

- Some of the Axes identifiers are in Spanish on the result file. They need to be updated in the CMM template.







# CMM Templates

## PowerInspect

- The \*.xls file can't be opened
- The solution is to save the \*.xls as a \*.txt file.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1													 Datum our Datum	
2	DELTCAM PLC													
3	Telbot Way				Telephone 0121 766 5544				E-mail: marketing@delcam.com					
4	Small Heath Business Park				Fax: 0121 766 5511				Web Site: http://www.delcam.com					
5	Birmingham B10 0HD, UK													
6														
7														
8	Zákazník				0				0					
9	Měření 3D ran CA-7520				Zákazník - mail				Your Zákazník - mail					
10	Měření provedl Your Měření provedl's na				Zákazník - telefon				Your Zákazník - telefon					
11	Popis Your part Popis here				Zákazník - zadal				Your contact person					
12	Report Type				Číslo výkresu				Your part number					
13														
14	<b>Skupina geometrie 1</b>													
15														
16														
17	<b>Šterbina 1</b>													
18														
19														
20														
21														
22														
23														
24														
25														
26	<b>Šterbina 2</b>													
27														
28														
29														
30														
31														
32														
33														
34														
35	<b>Bod 1</b>													
36														
37														
38														
39														
40														
41														
42	<b>Skupina geometrie 2</b>													
43														
44														
45	<b>Vzdálenost 1</b>													
46														

# CMM Templates

## PowerInspect

- The Axes identifiers are also in Czech in the report so the template need to be updated accordingly

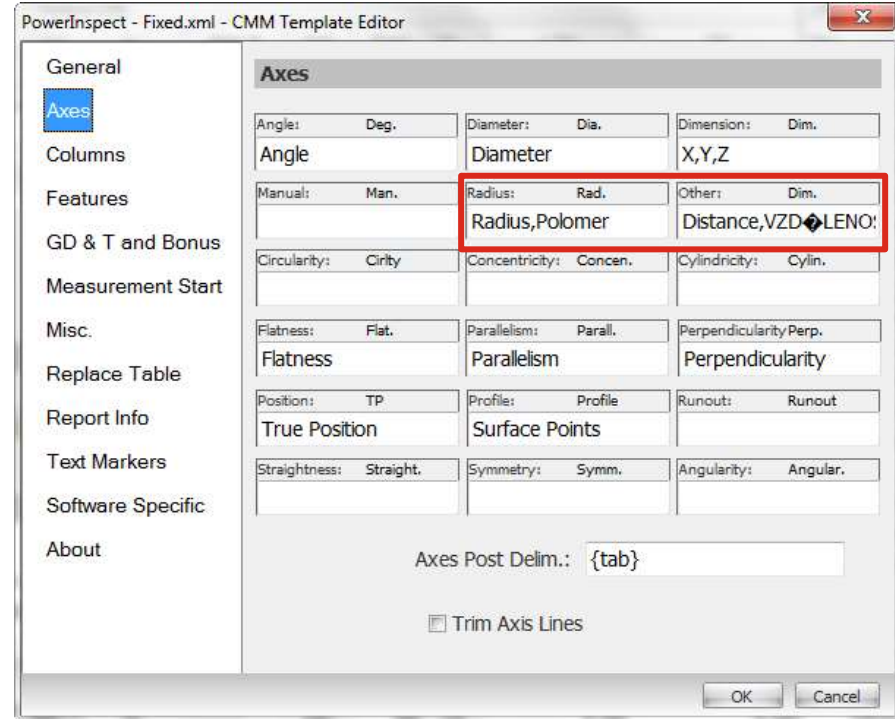
Šterbina 2						
	-Tol.	+Tol.	Nominal	Measured	Dev/Mean	Error
X	-0.100	0.100	249.502	249.502	0.000	
Y	-0.100	0.100	135.017	135.017	0.000	
Z	-0.100	0.100	0.000	0.000	0.000	
Overall length	-0.100	0.100	47.006	47.006	0.000	
Polomer	-0.100	0.100	13.505	13.505	0.000	

Bod 1						
	-Tol.	+Tol.	Nominal	Measured	Dev/Mean	Error
X	-0.100	0.100	0.000	0.000	0.000	
Y	-0.100	0.100	0.000	0.000	0.000	
Z	-0.100	0.100	0.000	0.000	0.000	

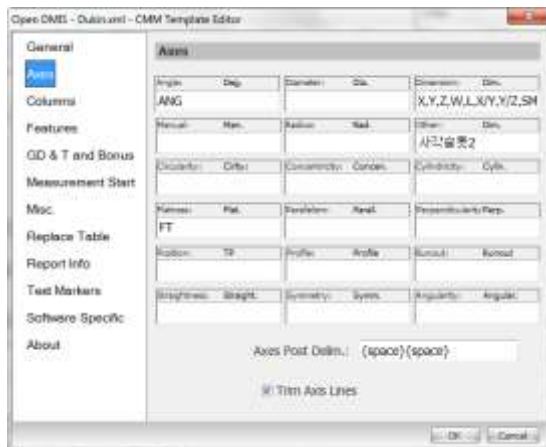
Skupina geometrie 2						
Vzdálenost 1						
Vzdálenost	-0.100	0.100	20.507	20.507	0.000	



# CMM Templates

## Dukin

- Another example of Axes identifiers not updated to match CMM result files

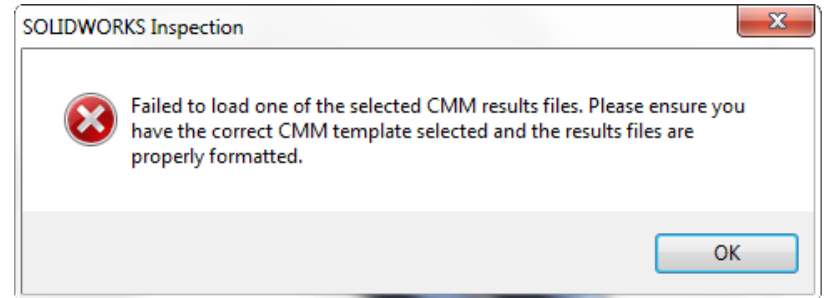


Inspection Report		Inspector	Checked	Approved			
품명							
측정일시							
의뢰부서							
품번							
측정자							
면도							
No.	Item	Actual	Nominal	Up Tol	Low Tol	Deviation	Evaluation
2	평면1						
	Z	165.6330					
	X/Z	0.0340					
	Y/Z	-0.1220					
	SMmf	8P	0.0620	0.1070	-0.0960	0.2030	
4	사각슬롯1						
	X	383.7700					
	Y	147.2850					
	Z	-1.8710					
	W	79.4970					
	L	221.3340					
	Y/X	-0.9240					
	SMmf	6P	0.0060	0.0070	-0.0080	0.0150	
6	평면2						
	Z	-0.0190					
	X/Z	0.0080					
	Y/Z	0.0480					
	평면도	0.2610	0.0000				Total
	SMmf	12P	0.0770	0.1390	-0.1220	0.2610	
8	사각슬롯2						

# CMM Templates

## Calypso

- Error when trying to import the files in **SW2015SP1.1**
- The same file opens in **SW2015SP2.1.**
- Make sure you are running the **latest version!** We are constantly improving the CMM Module!



# CMM Templates

## Calypso

- Some of the Axes are not parsed properly!

Line	Char #	Item #	Axis	Type	Normal	+ Tol	- Tol	File
1			PERP...	Perp.	0.0000	0.0020	0.0000	0.0003
Plane3 Perpendicularity3								
2			PERP...	Perp.	0.0000	0.0020	0.0000	0.0005
Plane1 Plane3 Cartesian Distance3								
3			Cart...	Dir.	3.0070	0.0000	0.0020	3.0078
Plane1 Flatness1 Flatness1								
4			FLAT...	Flat.	0.0000	0.0010	0.0000	0.0002
Plane1 Plane2 Cartesian Distance1								
5			Cart...	Dir.	2.5620	0.0050	0.0050	2.5596
Plane3 Cone Addition1 Cartesian Distance3								
6			Cart...	Dir.	0.1440	0.0050	0.0050	0.1466
Plane1 Plane5 Cartesian Distance4								
7			Cart...	Dir.	0.3030	0.0050	0.0050	0.3043
Plane4 Plane5 Cartesian Distance5								
8			Cart...	Dir.	0.0950	0.0050	0.0000	0.0963
076116-D-SEQ400-OP3 1052 test10 Result Element1 Result Element resultElementAngle 28.9855597 29.00								
0.5000000 -0.5000000 1 1 5								
Cone3								
9			Half ...	Deg.	45.0000	0.5000	0.5000	45.0242
Cone Addition1								
Z Value Dir. -0.0800 0.0150 0.0150 -0.0787								

076116-D-SEQ400-OP3 1052 test10 Result Element1 Result Element resultElementAngle 28.9855597 29.00  
0.5000000 -0.5000000 1 1 5  
Cone3



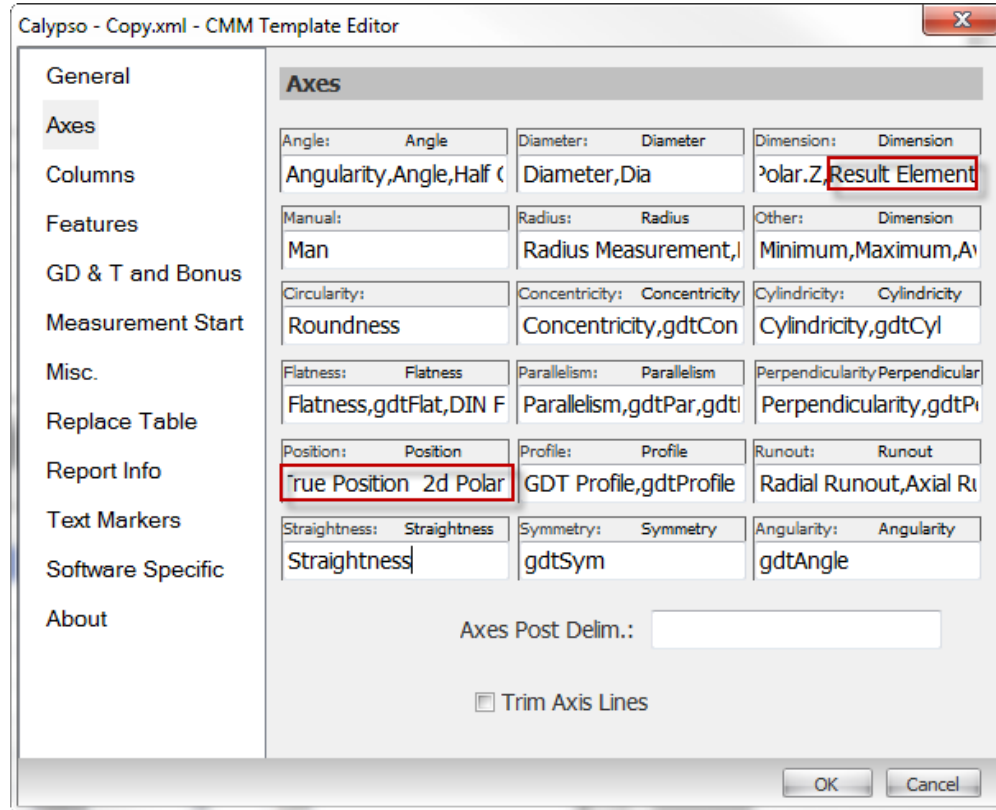
# CMM Templates

## Calypso

- Modify the default template to add those Axes. Make sure you are typing the exact same value!
- For example:

True Position 2d Polar

2 “spaces”!



# CMM Templates

## ATOS Professional GOM

- CSV File



# CMM Templates

## ATOS Professional GOM

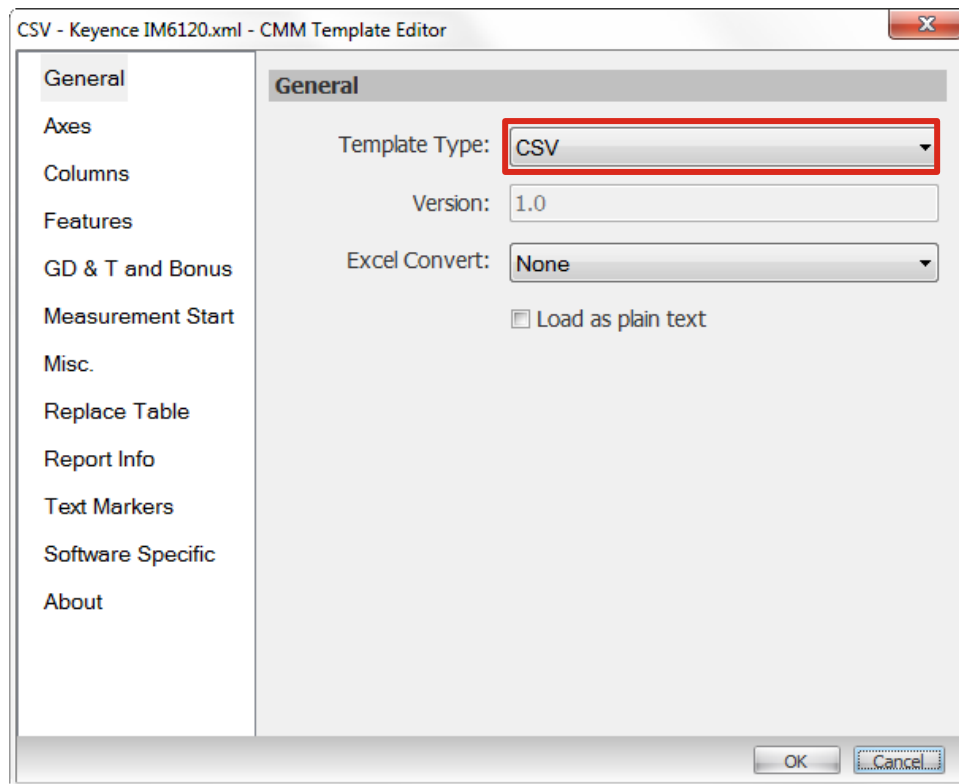
- Since it's a brand new template based on a \*.csv result file, we start by modifying the CSV.xml template

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out
Rozm?r 1,Ø,12.00,12.05,0.00,0.20,0.05,0.05,
Rozm?r 4,R,53.00,52.95,-0.30,0.30,-0.05,-0.05,
Rozm?r 5,LX,19.50,19.38,-0.20,0.20,-0.12,-0.12,
Rozm?r 6,LX,24.50,24.32,-0.20,0.20,-0.18,-0.18,
Rozm?r 7,LX,31.50,31.42,-0.30,0.30,-0.08,-0.08,
Rozm?r 8,LX,12.50,12.40,-0.15,0.15,-0.10,-0.10,
Rozm?r 9,LX,5.00,4.90,-0.10,0.10,-0.10,-0.10,
Rozm?r 10,Ø,84.00,84.13,-0.30,0.30,0.13,0.13,
Rozm?r 11,Ø,76.00,75.88,-0.30,0.30,-0.12,-0.12,
Rozm?r 12,Ø,53.00,53.21,-0.30,0.30,0.21,0.21,
Rozm?r 13,LX,5.00,5.08,-0.10,0.10,0.08,0.08,
Rozm?r 14,LX,10.00,9.93,-0.20,0.20,-0.07,-0.07,
Rozm?r 15,Ø,60.00,60.15,-0.30,0.30,0.15,0.15,
Rozm?r 16,R,48.00,47.70,-0.30,0.30,-0.30,-0.30,
Rozm?r 17,R,5.00,5.05,-0.10,0.10,0.05,0.05,
Rozm?r 18,R,5.00,5.10,-0.10,0.10,0.10,0.10,
Rozm?r 19,LX,3.00,3.07,-0.10,0.10,0.07,0.07,
Rozm?r 20,R,8.00,7.82,-0.20,0.20,-0.18,-0.18,
Rozm?r 21,R,4.00,4.10,-0.10,0.10,0.10,0.10,
Rozm?r 22,R,2.00,2.02,-0.10,0.10,0.02,0.02,
Rozm?r 23,R,53.00,52.96,-0.30,0.30,-0.04,-0.04,
Rozm?r 2,AngleXZ,120.00Degree sign,120.00Degree sign,-0.20Degree
sign,0.20Degree sign,0.00Degree sign,0.00,
Rozm?r 3,AngleXZ,120.00Degree sign,120.06Degree sign,-0.20Degree
sign,0.20Degree sign,0.06Degree sign,0.06,
Rozm?r 24,AngleXY,47.47Degree sign,47.27Degree sign,-0.30Degree
sign,0.30Degree sign,-0.20Degree sign,-0.20,
```

# CMM Templates

## ATOS Professional GOM

- Since it's a brand new template based on a \*.csv result file, we start by modifying the CSV.xml template



# CMM Templates

## ATOS Professional GOM

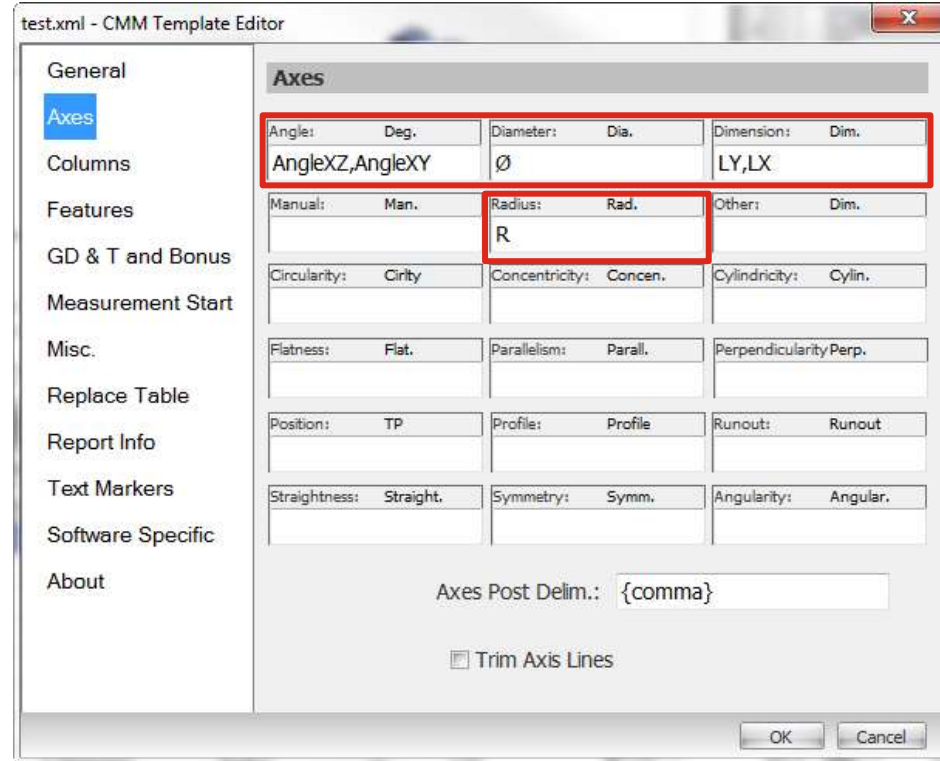
- We start by filling out the Axes. They are indicated in the column “Property”

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out
Rozm?r 1 Ø, 12.00,12.05,0.00,0.20,0.05,0.05,
Rozm?r 4 R, 53.00,52.95,-0.30,0.30,-0.05,-0.05,
Rozm?r 5 LY 19.50,19.38,-0.20,0.20,-0.12,-0.12,
Rozm?r 6 LY 24.50,24.32,-0.20,0.20,-0.18,-0.18,
Rozm?r 7 LY 31.50,31.42,-0.30,0.30,-0.08,-0.08,
Rozm?r 8 LY 12.50,12.40,-0.15,0.15,-0.10,-0.10,|
Rozm?r 9 LX 5.00,4.90,-0.10,0.10,-0.10,-0.10,
Rozm?r 10 Ø, 84.00,84.13,-0.30,0.30,0.13,0.13,
Rozm?r 11 Ø, 76.00,75.88,-0.30,0.30,-0.12,-0.12,
Rozm?r 12 Ø, 53.00,53.21,-0.30,0.30,0.21,0.21,
Rozm?r 13 LY 5.00,5.08,-0.10,0.10,0.08,0.08,
Rozm?r 14 LY 10.00,9.93,-0.20,0.20,-0.07,-0.07,
Rozm?r 15 Ø, 60.00,60.15,-0.30,0.30,0.15,0.15,
Rozm?r 16 R, 48.00,47.70,-0.30,0.30,-0.30,-0.30,
Rozm?r 17 R, 6.00,5.05,-0.10,0.10,0.05,0.05,
Rozm?r 18 R, 6.00,5.10,-0.10,0.10,0.10,0.10,
Rozm?r 19 LY 3.00,3.07,-0.10,0.10,0.07,0.07,
Rozm?r 20 R, 8.00,7.82,-0.20,0.20,-0.18,-0.18,
Rozm?r 21 R, 4.00,4.10,-0.10,0.10,0.10,0.10,
Rozm?r 22 R, 2.00,2.02,-0.10,0.10,0.02,0.02,
Rozm?r 23 R, 53.00,52.96,-0.30,0.30,-0.04,-0.04,
Rozm?r 2 AngleXZ,120.00Degree sign,120.00Degree sign,-0.20Degree
sign,0.20Degree sign,0.00Degree sign,0.00,
Rozm?r 3 AngleXZ,120.00Degree sign,120.06Degree sign,-0.20Degree
sign,0.20Degree sign,0.06Degree sign,0.06,
Rozm?r 24 AngleXY,47.47Degree sign,47.27Degree sign,-0.30Degree
sign,0.30Degree sign,-0.20Degree sign,-0.20,
```

# CMM Templates

## ATOS Professional GOM

- We start by filling out the Axes. They are indicated in the column “Property”: LY, LX, R, etc...

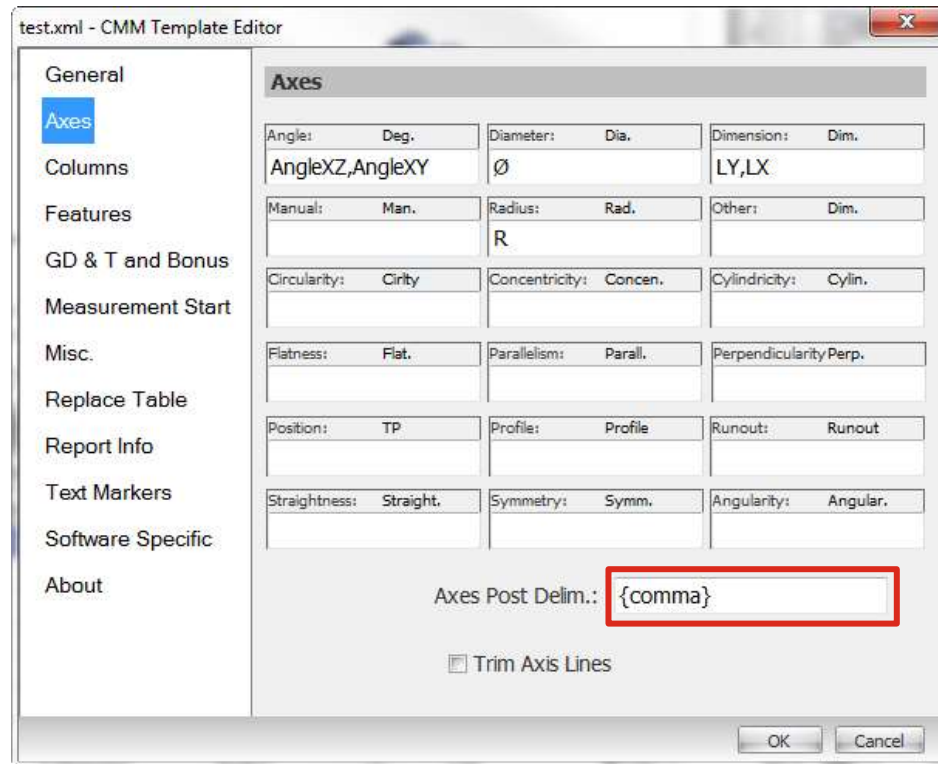


# CMM Templates

## ATOS Professional GOM

- Since results are delimited with “,” we indicate this in **Axes Post Delim** with “{comma}”

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out  
Rozm?r 1,Ø,12.00,12.05,0.00,0.20,0.05,0.05,
```

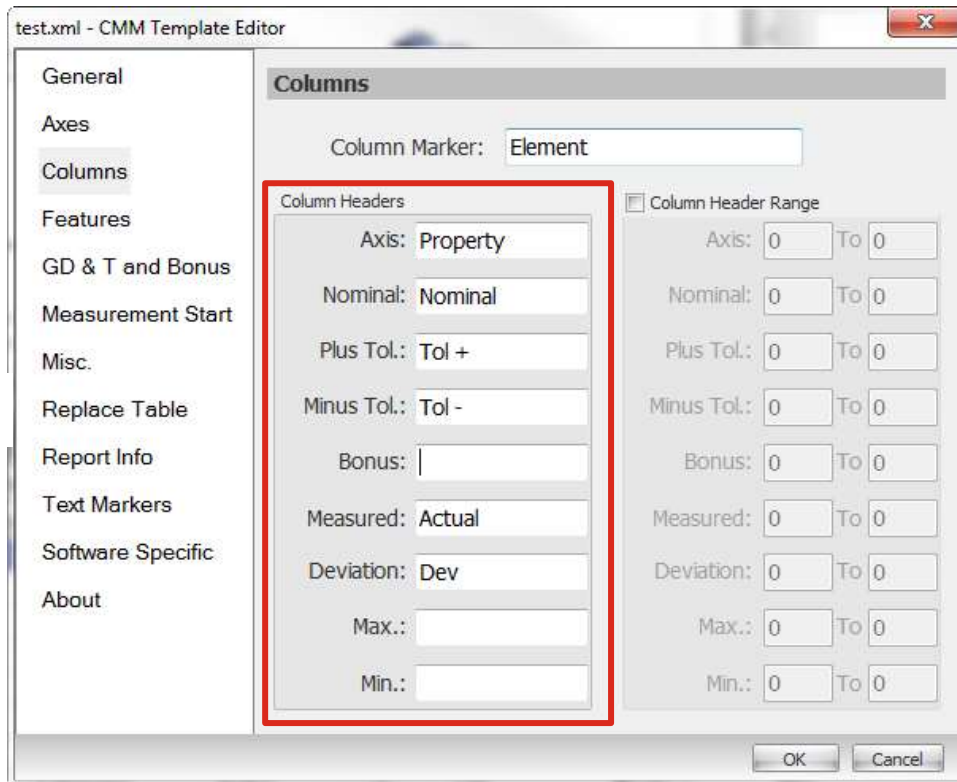


# CMM Templates

## ATOS Professional GOM

- Column Headers need to be indicated to allow the software to parse the results

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out  
Rozm?r 1,Ø,12.00,12.05,0.00,0.20,0.05,0.05,
```

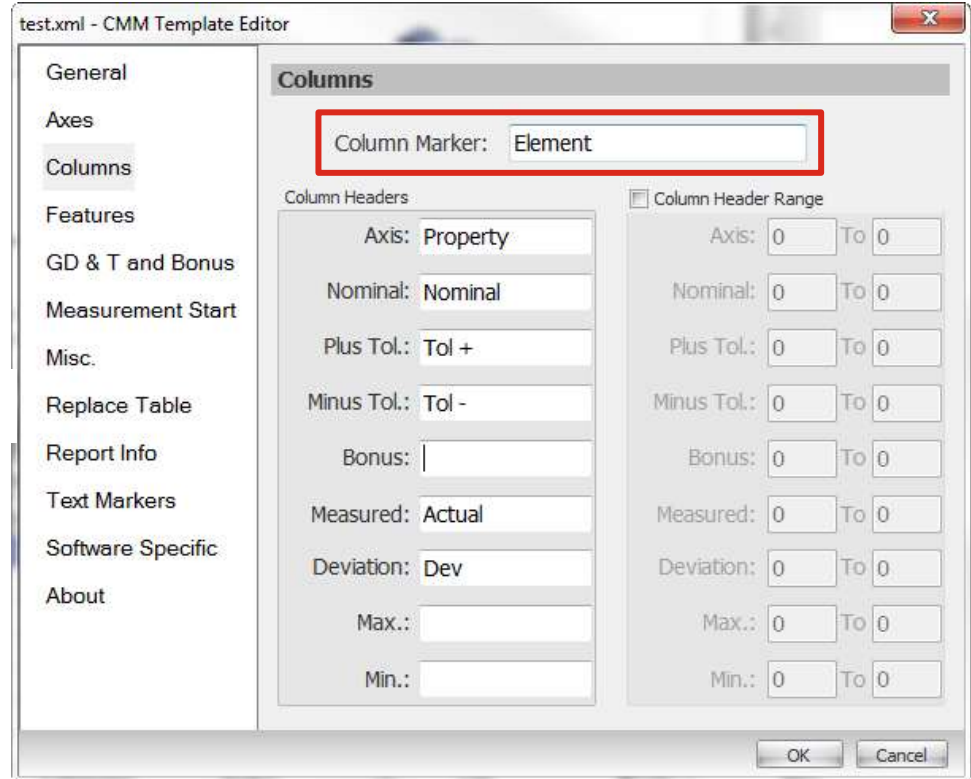


# CMM Templates

## ATOS Professional GOM

- Don't forget the **Column Marker!**

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out  
Rozm?r 1,Ø,12.00,12.05,0.00,0.20,0.05,0.05,
```



# CMM Templates

## ATOS Professional GOM

- To extract the results properly, some strings also need to be replaced
- We simply remove “Degree sign”

```
Element,Property,Nominal,Actual,Tol -,Tol +,Dev,Check,Out
Rozm?r 1,Ø,12.00,12.05,0.00,0.20,0.05,0.05,
Rozm?r 4,R,53.00,52.95,-0.30,0.30,-0.05,-0.05,
Rozm?r 5,LY,19.50,19.38,-0.20,0.20,-0.12,-0.12,
Rozm?r 6,LY,24.50,24.32,-0.20,0.20,-0.18,-0.18,
Rozm?r 7,LY,31.50,31.42,-0.30,0.30,-0.08,-0.08,
Rozm?r 8,LY,12.50,12.40,-0.15,0.15,-0.10,-0.10,|
Rozm?r 9,LX,5.00,4.90,-0.10,0.10,-0.10,-0.10,
Rozm?r 10,Ø,84.00,84.13,-0.30,0.30,0.13,0.13,
Rozm?r 11,Ø,76.00,75.88,-0.30,0.30,-0.12,-0.12,
Rozm?r 12,Ø,53.00,53.21,-0.30,0.30,0.21,0.21,
Rozm?r 13,LY,5.00,5.08,-0.10,0.10,0.08,0.08,
Rozm?r 14,LY,10.00,9.93,-0.20,0.20,-0.07,-0.07,
Rozm?r 15,Ø,60.00,60.15,-0.30,0.30,0.15,0.15,
Rozm?r 16,R,48.00,47.70,-0.30,0.30,-0.30,-0.30,
Rozm?r 17,R,5.00,5.05,-0.10,0.10,0.05,0.05,
Rozm?r 18,R,5.00,5.10,-0.10,0.10,0.10,0.10,
Rozm?r 19,LY,3.00,3.07,-0.10,0.10,0.07,0.07,
Rozm?r 20,R,8.00,7.82,-0.20,0.20,-0.18,-0.18,
Rozm?r 21,R,4.00,4.10,-0.10,0.10,0.10,0.10,
Rozm?r 22,R,2.00,2.02,-0.10,0.10,0.02,0.02,
Rozm?r 23,R,53.00,52.96,-0.30,0.30,-0.04,-0.04,
Rozm?r 2,AngleXZ,120.00Degree sign,120.00Degree sign,-0.20Degree
sign,0.20Degree sign,0.06Degree sign,0.06,
Rozm?r 3,AngleXZ,120.00Degree sign,120.06Degree sign,-0.20Degree
sign,0.20Degree sign,0.06Degree sign,0.06,
Rozm?r 24,AngleXY,47.47Degree sign,47.27Degree sign,-0.30Degree
sign,0.30Degree sign,-0.20Degree sign,-0.20,
```



# CMM Templates

## ATOS Professional GOM

- The diameter symbol  $\emptyset$  however can't be used as an Axes and prevent the diameter results from being extracted

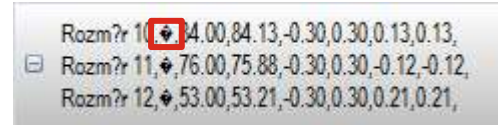
```
Rozm?r 10, 12.00, 12.05, -0.30, 0.30, 0.13, 0.13,  
Rozm?r 11, 76.00, 75.88, -0.30, 0.30, -0.12, -0.12,  
Rozm?r 12, 53.00, 53.21, -0.30, 0.30, 0.21, 0.21,
```

```
Element, Property, Nominal, Actual, Tol -, Tol +, Dev, Check, Out  
Rozm?r 1,  $\emptyset$ , 12.00, 12.05, 0.00, 0.20, 0.05, 0.05,  
Rozm?r 4, R, 53.00, 52.95, -0.30, 0.30, -0.05, -0.05,  
Rozm?r 5, LY, 19.50, 19.38, -0.20, 0.20, -0.12, -0.12,  
Rozm?r 6, LY, 24.50, 24.32, -0.20, 0.20, -0.18, -0.18,  
Rozm?r 7, LY, 31.50, 31.42, -0.30, 0.30, -0.08, -0.08,  
Rozm?r 8, LY, 12.50, 12.40, -0.15, 0.15, -0.10, -0.10,  
Rozm?r 9, LX, 5.00, 4.90, -0.10, 0.10, -0.10, -0.10,  
Rozm?r 10,  $\emptyset$ , 84.00, 84.13, -0.30, 0.30, 0.13, 0.13,  
Rozm?r 11,  $\emptyset$ , 76.00, 75.88, -0.30, 0.30, -0.12, -0.12,  
Rozm?r 12,  $\emptyset$ , 53.00, 53.21, -0.30, 0.30, 0.21, 0.21,  
Rozm?r 13, LY, 5.00, 5.08, -0.10, 0.10, 0.08, 0.08,  
Rozm?r 14, LY, 10.00, 9.93, -0.20, 0.20, -0.07, -0.07,  
Rozm?r 15,  $\emptyset$ , 60.00, 60.15, -0.30, 0.30, 0.15, 0.15,  
Rozm?r 16, R, 48.00, 47.70, -0.30, 0.30, -0.30, -0.30,  
Rozm?r 17, R, 5.00, 5.05, -0.10, 0.10, 0.05, 0.05,  
Rozm?r 18, R, 5.00, 5.10, -0.10, 0.10, 0.10, 0.10,  
Rozm?r 19, LY, 3.00, 3.07, -0.10, 0.10, 0.07, 0.07,  
Rozm?r 20, R, 8.00, 7.82, -0.20, 0.20, -0.18, -0.18,  
Rozm?r 21, R, 4.00, 4.10, -0.10, 0.10, 0.10, 0.10,  
Rozm?r 22, R, 2.00, 2.02, -0.10, 0.10, 0.02, 0.02,  
Rozm?r 23, R, 53.00, 52.96, -0.30, 0.30, -0.04, -0.04,  
Rozm?r 2, AngleXZ, 120.00Degree sign, 120.00Degree sign, -0.20Degree  
sign, 0.20Degree sign, 0.00Degree sign, 0.00,  
Rozm?r 3, AngleXZ, 120.00Degree sign, 120.06Degree sign, -0.20Degree  
sign, 0.20Degree sign, 0.06Degree sign, 0.06,  
Rozm?r 24, AngleXY, 47.47Degree sign, 47.27Degree sign, -0.30Degree  
sign, 0.30Degree sign, -0.20Degree sign, -0.20,
```

# CMM Templates

## ATOS Professional GOM

- This indicates a text encoding issue: You **can't** replace this Ø symbol using the table so either the CMM Programmer change the CMM program to indicate Dia or Diameter instead of Ø in the CMM results OR the results files are encoded using Unicode or Utf8 (Not ANSI!)



# CMM Templates

## ATOS Professional GOM

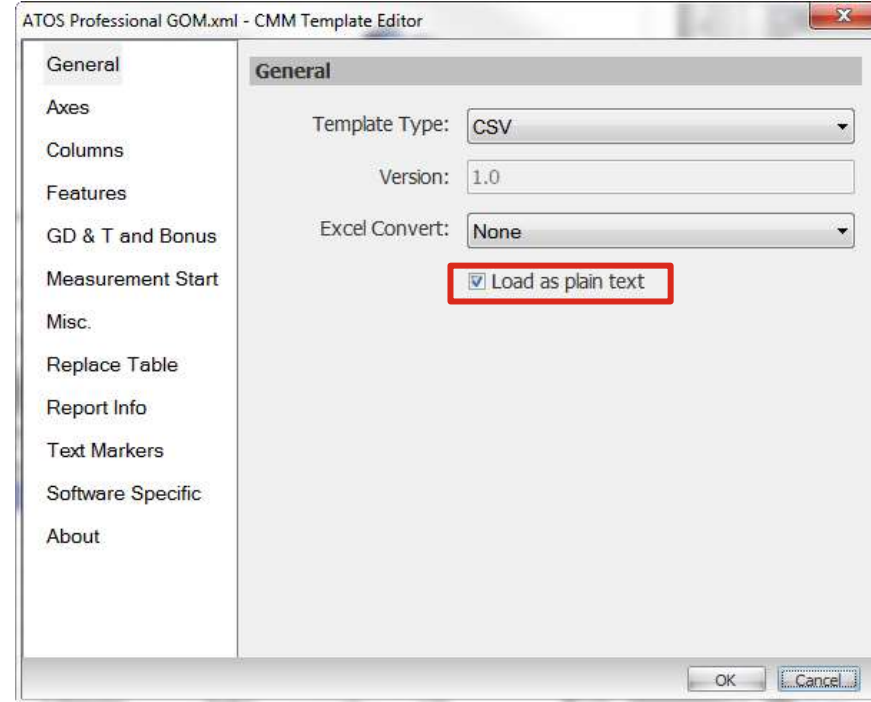
- This can be done using NotePad!



# CMM Templates

## ATOS Professional GOM

- However, the best and easiest way to use unicode characters is to simply turn this option on!



# CMM Templates

## ATOS Professional GOM

- After all this, the CMM results can be imported properly...

Feature Info								1 File
Line	...	...	Axis	Type	No...	+ Tol	- Tol	File1
Char: 1								
>	1		Di...	Dia.	12.00	0.20	0.00	12.05
	2		R	Rad.	53.00	0.30	0.30	52.95
	3		LY	Dim.	19.50	0.20	0.20	19.38
	4		LY	Dim.	24.50	0.20	0.20	24.32
	5		LY	Dim.	31.50	0.30	0.30	31.42
	6		LY	Dim.	12.50	0.15	0.15	12.40
	7		LX	Dim.	5.00	0.10	0.10	4.90
	8		Di...	Dia.	84.00	0.30	0.30	84.13
	9		Di...	Dia.	76.00	0.30	0.30	75.88
	10		Di...	Dia.	53.00	0.30	0.30	53.21
	11		LY	Dim.	5.00	0.10	0.10	5.08
	12		LY	Dim.	10.00	0.20	0.20	9.93
	13		Di...	Dia.	60.00	0.30	0.30	60.15
	14		R	Rad.	48.00	0.30	0.30	47.70
	15		R	Rad.	5.00	0.10	0.10	5.05
	16		R	Rad.	5.00	0.10	0.10	5.10
	17		LY	Dim.	3.00	0.10	0.10	3.07
	18		R	Rad.	8.00	0.20	0.20	7.82
	19		R	Rad.	4.00	0.10	0.10	4.10
	20		R	Rad.	2.00	0.10	0.10	2.02
	21		R	Rad.	53.00	0.30	0.30	52.96
	22		An...	Deg.	120.00	0.20	0.20	120.00
	23		An...	Deg.	120.00	0.20	0.20	120.06
	24		An...	Deg.	47.47	0.30	0.30	47.27

# CMM Templates

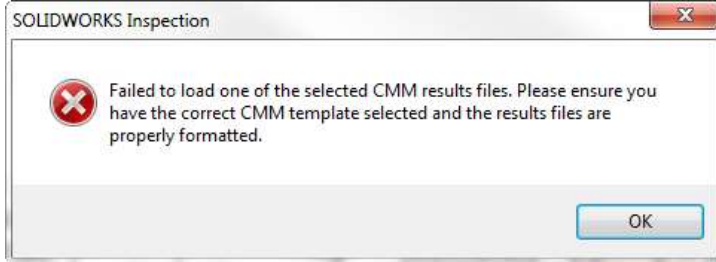
Nikon Metrology



# CMM Templates

## Nikon Metrology

- Camio XML result file impossible to load



```
1371075191.xml - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8" ?>
<!-- common space datum not defined. Please refer to the documentation on why and how to do this. -->
<dimensional_inspection_results version="Metric 3.0.1a">
  <results_header>
    <cad_info id="CAD_WGL10000064404" name="WGL10000064404.sab" revision="" />
    <part_inspection_status status="FAIL" />
    <part_program_info name="1371075191.DMI" revision="" tolerance_std="ASME" linear_units="mm" angular_units="600000" />
    <inspection_program_info vendor_name="Nikon Metrology" its application_name="Camio" application_version="8.1" />
    <compensated_default compensated="YES" />
    <inspection_start date_time="2015-04-21T11:43:42" />
    <inspection_end date_time="2015-04-21T12:15:14" />
  </results_header>
  <results_list>
    <transform id="XFORM_MOM_0" name="0">
      <transform_3d>
        <vector i="1.000000" j="0.000000" k="0.000000" axis="X" />
        <vector i="0.000000" j="1.000000" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000000" k="1.000000" axis="Z" />
        <point x="0.000000" y="0.000000" z="0.000000" />
      </transform_3d>
    </transform>
    <transform id="XFORM_ACT_0" name="0">
      <transform_3d>
        <vector i="1.000000" j="0.000000" k="0.000000" axis="X" />
        <vector i="0.000000" j="1.000000" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000000" k="1.000000" axis="Z" />
        <point x="0.000000" y="0.000000" z="0.000000" />
      </transform_3d>
    </transform>
    <transform id="XFORM_MOM_1" name="1">
      <transform_3d>
        <vector i="0.999996" j="0.002771" k="0.000000" axis="X" />
        <vector i="0.002771" j="0.999996" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000000" k="1.000000" axis="Z" />
        <point x="681.216531" y="286.760090" z="-594.695991" />
      </transform_3d>
    </transform>
    <transform id="XFORM_ACT_1" name="1">
      <transform_3d>
        <vector i="0.999996" j="0.002044" k="0.000000" axis="X" />
        <vector i="0.002044" j="0.999996" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000000" k="1.000000" axis="Z" />
        <point x="720.095847" y="267.266177" z="-665.591106" />
      </transform_3d>
    </transform>
    <transform id="XFORM_MOM_10" name="10">
      <transform_3d>
        <vector i="0.975040" j="0.219116" k="0.000000" axis="X" />
        <vector i="0.219116" j="0.975040" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000144" k="1.000000" axis="Z" />
        <point x="1583.416508" y="257.480543" z="-624.449414" />
      </transform_3d>
    </transform>
    <transform id="XFORM_ACT_10" name="10">
      <transform_3d>
        <vector i="0.975664" j="0.218381" k="0.000027" axis="X" />
        <vector i="0.218381" j="0.975664" k="0.000438" axis="Y" />
        <vector i="0.000000" j="0.000434" k="1.000000" axis="Z" />
        <point x="1616.271645" y="257.500227" z="-695.443367" />
      </transform_3d>
    </transform>
    <transform id="XFORM_MOM_11" name="11">
      <transform_3d>
        <vector i="0.999996" j="0.002771" k="0.000000" axis="X" />
        <vector i="0.002771" j="0.999996" k="0.000000" axis="Y" />
        <vector i="0.000000" j="0.000000" k="1.000000" axis="Z" />
        <point x="476.033953" y="762.847630" z="-624.619991" />
      </transform_3d>
    </transform>
  </results_list>
</dimensional_inspection_results>
```

# CMM Templates

## Nikon Metrology

- Customer send more files, one of them looks similar to PC-DMIS type result files!
- Result file is very well structured!

1371075191ies - Notepad

File Edit Format View Help

30-Apr-2015 10:14 Start Template Seite 1

(mm)	Ist	Soll	U_TOL	O_TOL	ABWEICH.	GRAF.	FEHLER
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Temperaturkompensation: AUS

Issalguss GmbH Qualitätssicherung - Mechanischer Betrieb - Messprotokoll

ERSTSTÜCKFREIGABE { } TEIL - BEZEICHNUNG : LLK-GEHÄUSE  
STICHPROBENKONTROLLE { } ZEICHNUNG - NR. : 1371075191  
Stempel für Erststückfreigabe TEIL - NR. : 1  
KOSTERSTELLE : XXXXXX  
PRUEFER : Hackfort

(mm)	ISTWERT	SOLLWERT	U_TOL	O_TOL	ABWEICHUNG	GRAF.	FEHLER
Eberheit an den 2 Nocken ( DIN - 2768 )							
Eberheit	0,000	0,200				*---	
1. Aufnahmebohrung M12 - VORNE							
Kreis:CR2							
X-Achse	378,500	378,500	-0,150	+0,150	0,000	---	---
Z-Achse	-29,920	-29,920	-0,150	+0,150	0,000	---	---
Durchm.	10,200	10,200	-0,200	+0,200	0,000	---	---
1. Aufnahmebohrung M12 - HINTEN							
Kreis:CR3							
X-Achse	-378,500	-378,500	-0,150	+0,150	0,000	---	---
Z-Achse	-29,920	-29,920	-0,150	+0,150	0,000	---	---
Durchm.	10,200	10,200	-0,200	+0,200	0,000	---	---
4 Spärgewinde M16 - zunächst Nocken HINTEN							
Kreis:CR4							
X-Achse	-378,500	-378,500	-0,150	+0,150	0,000	---	---
Z-Achse	80,000	80,000	-0,150	+0,150	0,000	---	---
Durchm.	14,000	14,000	-0,200	+0,200	0,000	---	---
JETZT Nocken VORNE							
Kreis:CR6							
X-Achse	378,500	378,500	-0,150	+0,150	0,000	---	---
Z-Achse	-156,920	-156,920	-0,150	+0,150	0,000	---	---
Durchm.	14,000	14,000	-0,200	+0,200	0,000	---	---
Kreis:CR7							
X-Achse	378,500	378,500	-0,150	+0,150	0,000	---	---

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(mm)	Ist	Soll	U_TOL	O_TOL	ABWEICH.	GRAF.	FEHLER
Z-Achse	80,000	80,000	-0,150	+0,150	0,000	---	---
Durchm.	14,000	14,000	-0,200	+0,200	0,000	---	---