

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!

1371075191es - Notepad

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)
Ebene:PL1
Eberheits 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 ---*---

Kreis:CR5
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 ---*---

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 ---*---

30-Apr-2015 10:14 Start Template Seite 2

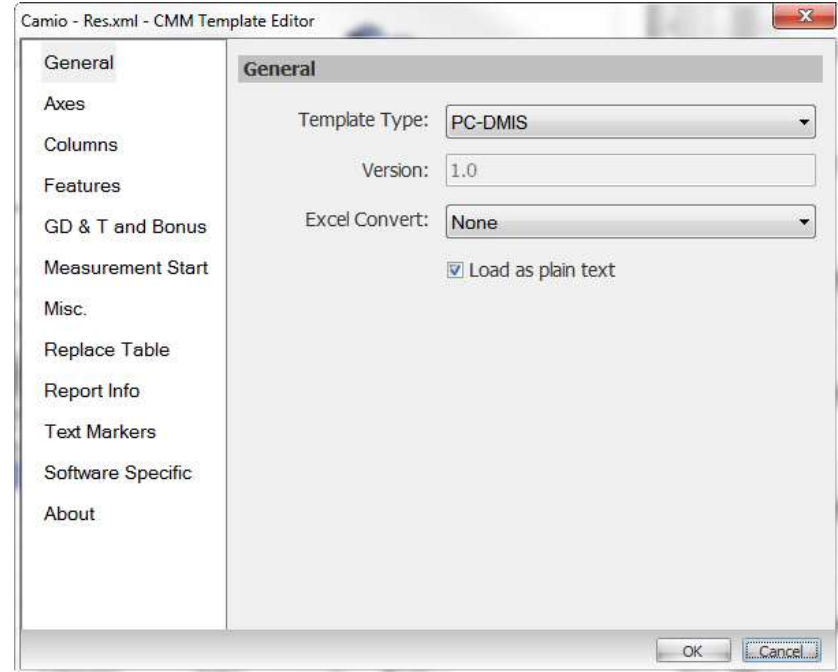
(mm)	Ist	Soll	U_TOL	O_TOL	ABWEICH.	GRAF.	FEHLER
------	-----	------	-------	-------	----------	-------	--------

Z-Achse 80,000 80,000 -0,150 +0,150 0,000 ---*---
Durchm. 14,000 14,000 -0,200 +0,200 0,000 ---*---

CMM Templates

Nikon Metrology

- We start by modifying the PC-DMIS template
- Don't forget to check **Load as plain text** since there are some German characters...

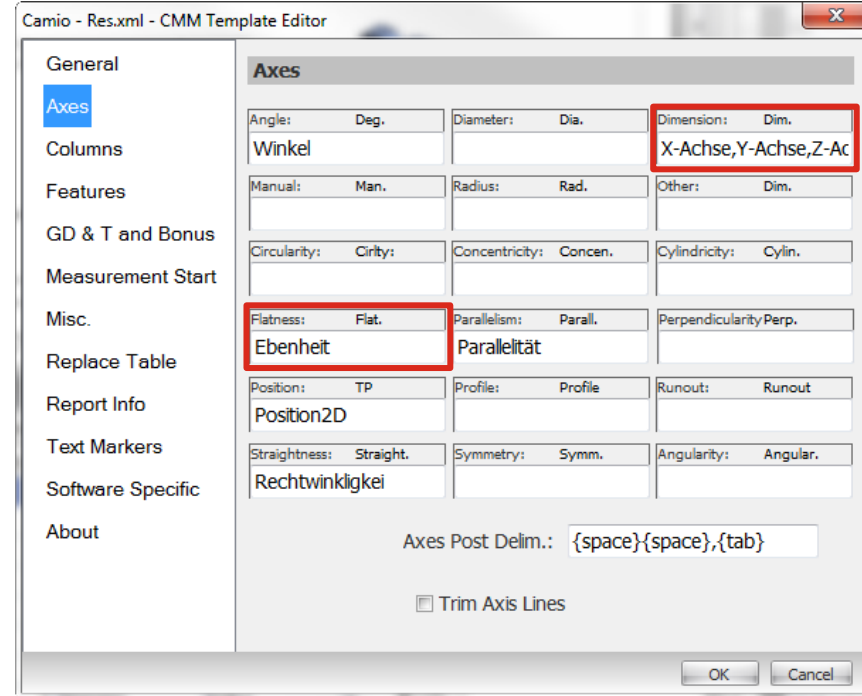


CMM Templates

Nikon Metrology

- Then we modify the Axes to match what we have in the result file...

(mm)	ISTWERT	SOLLWERT	U_TOL	O_TOLABWEICHUNG	GRAF.	FEHLER
Ebenheit an den 2 Nocken (DIN - 2768)						
Ebene-Pl 1						
Ebenheit	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	---*---



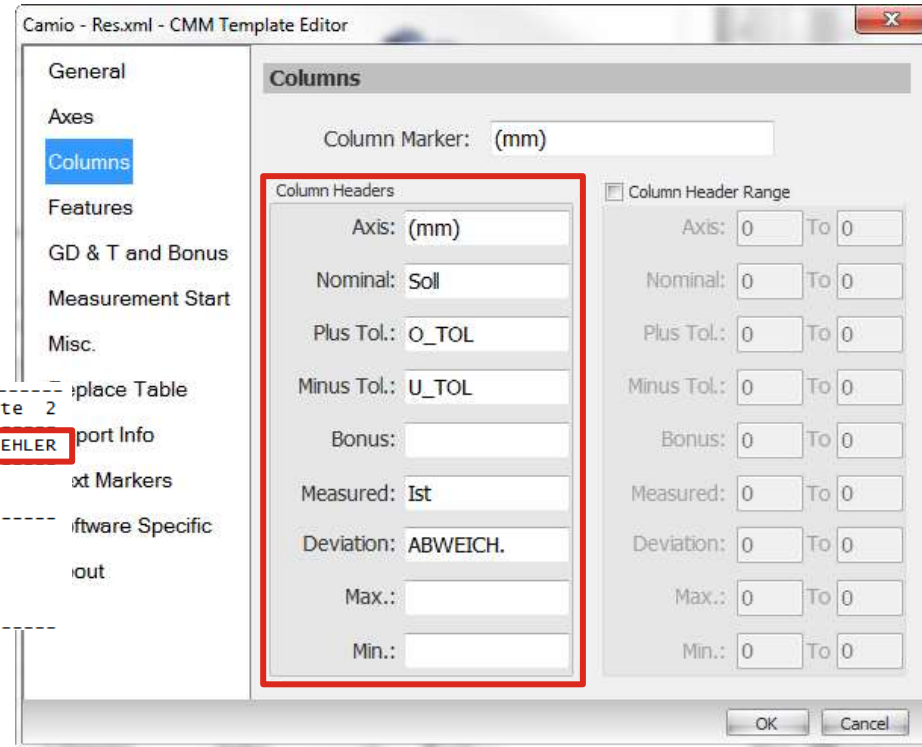
CMM Templates

Nikon Metrology

- We indicate the column headers...

30-Apr-2015 10:14 Start Template Seite 2

(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	---*---	
4 Gewinde M12 - zunaechst am Nocken VORNE							
Kreis:CR8							
X-Achse	378.500	378.500	-0.150	+0.150	0.000	---*---	
Z-Achse	48.080	48.080	-0.150	+0.150	0.000	---*---	
Durchm.	10.200	10.200	-0.200	+0.200	0.000	---*---	



CMM Templates

Nikon Metrology

- Careful! There are two different syntaxes used for the column headers! We choose one, and use **Replace Table** to replace the others....

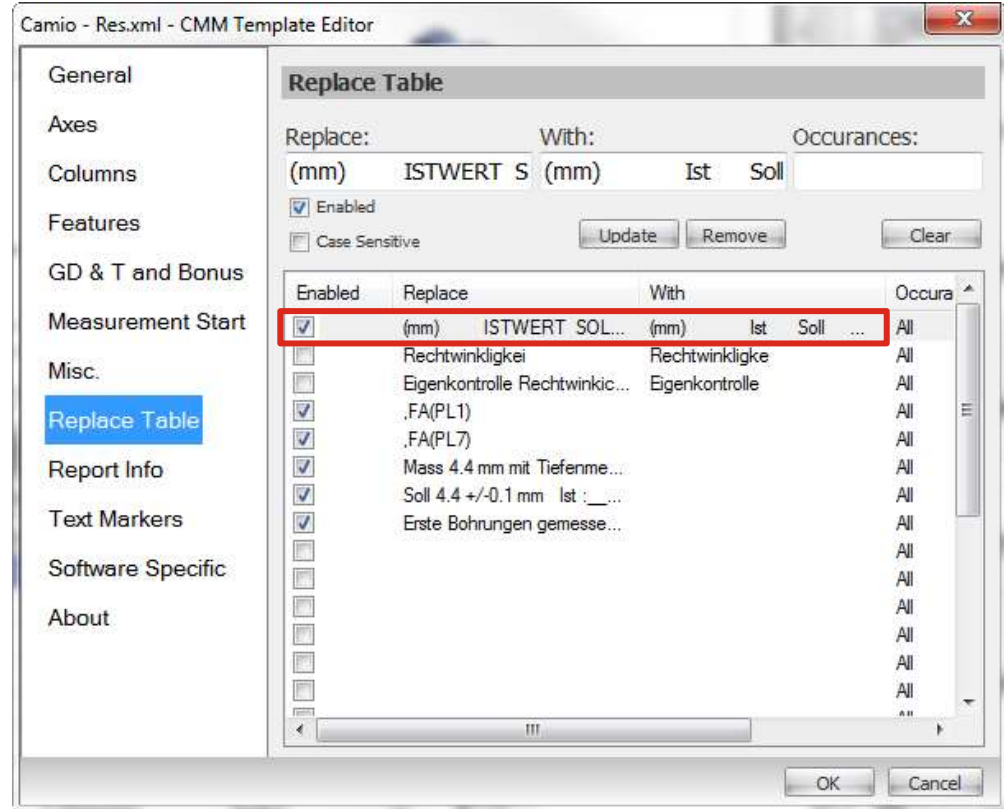
(mm)	Ist	Soll	U_TOL	O_TOL	ABWEICH.	GRAF.	FEHLER
Z-Achse	80.000	80.000	-0.150	+0.150	0.000	---*---	
Durchm.	14.000	14.000	-0.200	+0.200	0.000	---*---	
4 Gewinde M12 - zunaechst am Nocken VORNE							
Kreis:CR8							
X-Achse	378.500	378.500	-0.150	+0.150	0.000	---*---	
Z-Achse	48.080	48.080	-0.150	+0.150	0.000	---*---	
Durchm.	10.200	10.200	-0.200	+0.200	0.000	---*---	

(mm)	ISTWERT	SOLLWERT	U_TOL	O_TOL	ABWEICHUNG	GRAF.	FEHLER
Ebeneheit an den 2 Nocken (DIN - 2768)							
Ebene:PL1							
Ebeneheit	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	---*---	

CMM Templates

Nikon Metrology

- Careful! There are two different syntaxes used for the column headers! We choose one, and use **Replace Table** to replace the others....



CMM Templates

Nikon Metrology

- If we weren't using the **Replace Table**, some results wouldn't be imported!

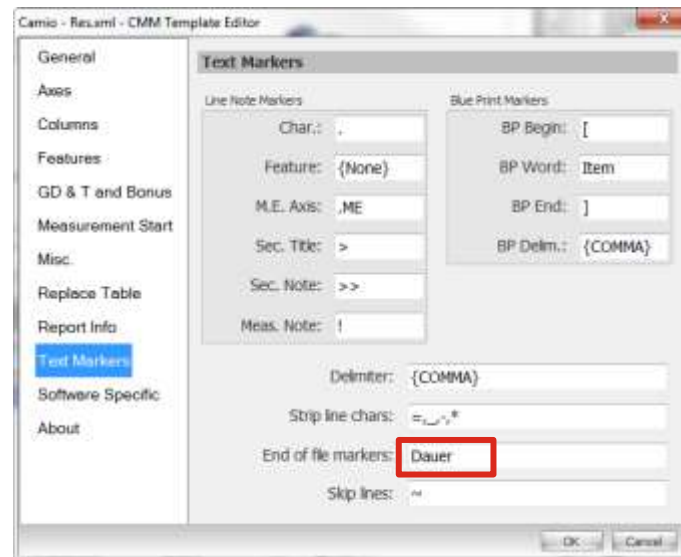
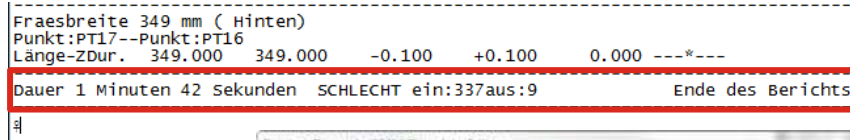
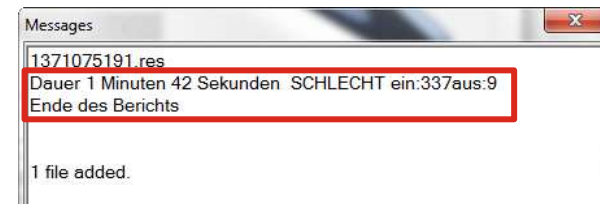
The screenshot shows a software interface for CMM data processing. A table lists features with columns for Line, Axis, Type, Nominal, + Tol, - Tol, and File. A red box highlights rows 1 through 17, which correspond to various circular features (Kreise) and their dimensions. Below the table, there is a 'Start Template' section and a 'Seite 2' indicator.

Line	Axis	Type	Nominal	+ Tol	- Tol	File
1	Ed...	Flat				
1 Aufnahmebohrung M12 - VORNEKreis CR2						
2	X...	Des.			0.150	
3	Z...	Des.			0.150	
4	Du...	Des.			0.200	
1 Aufnahmebohrung M12 - HINTENKreis CR3						
5	X...	Des.			0.150	
6	Z...	Des.			0.150	
7	Du...	Des.			0.200	
4 Spangrende M16 - zurecht Nocken HINTENKreis CR4						
8	X...	Des.			0.150	
9	Z...	Des.			0.150	
10	Du...	Des.			0.200	
Kreis CR5						
11	X...	Des.			0.150	
12	Z...	Des.			0.150	
13	Du...	Des.			0.200	
jezt Nocken VORNEKreis CR6						
14	X...	Des.			0.150	
15	Z...	Des.			0.150	
16	Du...	Des.			0.200	
Kreis CR7						
17	X...	Des.			0.150	
30-Apr-2015 10:14 Start Template Seite 2						
18	Z...	Des.	80.000	0.150	0.150	80.000
19	Du...	Des.	14.000	0.200	0.200	14.000
4 Grande M12 - zurecht am Nocken VORNEKreis CR8						
20	X...	Des.	378.500	0.150	0.150	378.500
21	Z...	Des.	48.080	0.150	0.150	48.080
22	Du...	Des.	10.200	0.200	0.200	10.200
Kreis CR8						
23	X...	Des.	411.000	0.150	0.150	411.000

CMM Templates

Nikon Metrology

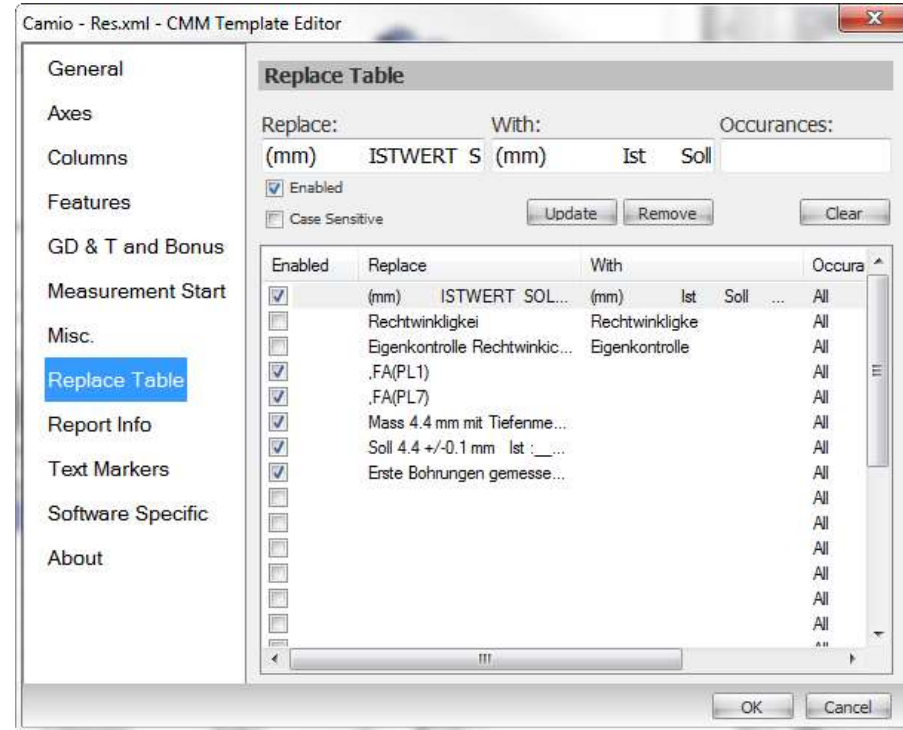
- To get rid of the warning we still have when importing the result file, we indicate the **End of file markers**



CMM Templates

Nikon Metrology

- We can use the **Replace Table** to clean up anything that can cause an issue...



CMM Templates

CMM Manager

- Result file looks properly structured but opens with a warning and most results are missing

CMM-Manager Report

Tuesday, October 21, 2008 07:11 AM

Nazwa Raportu: mój raport1
Nazwa Cześci: myPartName
Wzrostkiel: myParting
KodZrotael: kwercola
Firma: mgkpol s.a. poland
Industria: mg
Nazwa pliku: mój 1.rpt

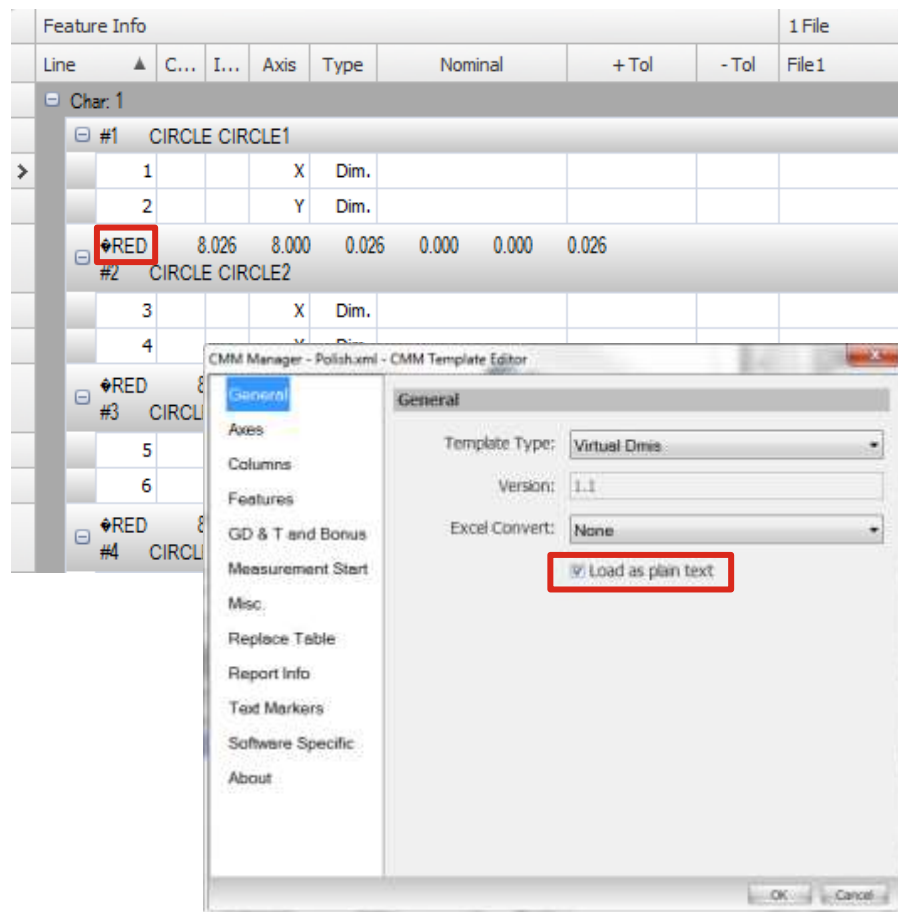
	szczyt	max	odchyłka	odlona wzł	odlona toł	max wzł
#1 CIRCLE CIRCLE1	X	0.000	0.000	0.000	0.000	0.000
	Y	-0.000	0.000	-0.000	0.000	0.000
	ERR0	0.000	0.000	0.000	0.000	0.000
#2 CIRCLE CIRCLE2	X	0.004	0.000	0.004	0.000	0.004
	Y	0.010	0.000	0.010	0.000	0.010
	ERR0	0.014	0.000	0.014	0.000	0.014
#3 CIRCLE CIRCLE3	X	-0.009	-0.000	-0.009	0.000	-0.009
	Y	0.012	0.000	0.012	0.000	0.012
	ERR0	0.012	0.000	0.012	0.000	0.012
#4 CIRCLE CIRCLE4	X	-14.292	-14.000	-0.007	0.000	-0.007
	Y	25.330	25.000	0.005	0.000	0.005
	ERR0	25.330	25.000	0.010	0.000	0.010
#5 CIRCLE CIRCLE5	X	-12.096	-12.000	-0.004	0.000	-0.004
	Y	76.909	76.000	0.009	0.000	0.009
	ERR0	12.011	12.000	0.011	0.000	0.011
#6 CIRCLE CIRCLE6	X	13.002	13.000	0.002	0.000	0.002
	Y	89.510	89.000	0.010	0.000	0.010
	ERR0	12.010	12.000	0.010	0.000	0.010
#7 CIRCLE CIRCLE7	X	41.000	41.000	0.000	0.000	0.000
	Y	104.036	104.000	0.036	0.000	0.036
	ERR0	11.048	10.000	0.548	0.000	0.548
#8 CIRCLE CIRCLE8	X	0.232	0.000	0.232	0.000	0.232
	Y	24.706	24.000	0.006	0.000	0.006
	ERR0	12.011	12.000	0.011	0.000	0.011
#9 CIRCLE CIRCLE9	X	-0.000	-0.000	-0.000	0.000	-0.000
	Y	17.004	17.000	0.004	0.000	0.004
	ERR0	12.011	12.000	0.011	0.000	0.011
#10 BOWA BOWA11	X	10.000	10.000	-0.000	0.000	-0.000
	Y	0.000	0.000	0.000	0.000	0.000
	Z	0.000	0.000	0.000	0.000	0.000
	ERR0	10.000	10.000	-0.000	0.000	-0.000
	ERR1	10.004	10.000	0.004	-0.000	-0.004

Line	C	L	Asst	Type	Normal	+Tol	-Tol	Flt
Obj-1								
#1	CIRCLE	CIRCLE1						
1			X	Dim.				
2			Y	Dim.				
#RED	0.020	0.000	0.020	0.000	0.000	0.020		
#2	CIRCLE	CIRCLE2						
3			X	Dim.				
4			Y	Dim.				
#RED	0.014	0.000	0.014	0.000	0.000	0.014		
#3	CIRCLE	CIRCLE3						
5			X	Dim.				
6			Y	Dim.				
#RED	0.012	0.000	0.012	0.000	0.000	0.012		
#4	CIRCLE	CIRCLE4						
7			X	Dim.				
8			Y	Dim.				
#RED	25.316	25.000	0.316	0.000	0.000	0.316		
#5	CIRCLE	CIRCLE5						
9			X	Dim.				
10			Y	Dim.				
#RED	12.011	12.000	0.011	0.000	0.000	0.011		
#6	CIRCLE	CIRCLE6						
11			X	Dim.				
12			Y	Dim.				
#RED	12.010	12.000	0.010	0.000	0.000	0.010		
#7	CIRCLE	CIRCLE7						
13			X	Dim.				
14			Y	Dim.				
#RED	11.548	10.500	0.548	0.000	0.000	0.548		
#8	CIRCLE	CIRCLE8						
15			X	Dim.				
16			Y	Dim.				
#RED	12.011	12.000	0.011	0.000	0.000	0.011		
#9	CIRCLE	CIRCLE9						

CMM Templates

CMM Manager

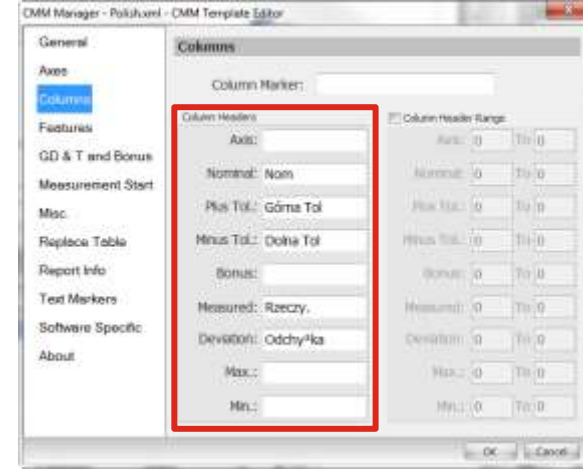
- There are some encoding issues (since the file is from a Polish computer) so the **Load as plain text** need to be turned on



CMM Templates

CMM Manager

- Then, the Axes and Column Headers have to be updated!



CMM Templates

Metrostaff

- The result file looks similar to PC-DMIS

```
4-1465.1.txt - Notepad
File Edit Format View Help
Project name : C:\Metrostaff\ArcoCAD_Inspection\user\Unititled.dmp
Report starts at : 18-03-2015 15:20:29

TIME : 15:21:23
DRAWING_NO : 4-1465.2
PART_NAME : : OFI RB30
SAMPLE_NO : 01
CUSTOMER_NAME : : MOTIVE
SUPPLIER_NAME : : SMP1
MACHE_NO : : 01
OPERATOR_NAME : : NILESH
CHECKED_BY : : PANDYA
BORE_B0 - CIRCLE/INNER
Label Nominal Actual Deviation Lower tol. Upper tol.
OOT
DIAM 80.0000 79.9975 -0.0025 0.0000 0.0460
-0.0025

HOLE_3 - CIRCLE/INNER
Label Nominal Actual Deviation Lower tol. Upper tol.
OOT
DIAM 130.0000 130.0714 0.0714 -0.0110 0.0140
0.0574

HOLE_DIA_11_1 - CIRCLE/INNER
Label Nominal Actual Deviation Lower tol. Upper tol.
X 0.0000 -0.0486 -0.0486 -0.1000 0.1000
Y -82.5000 -82.6536 0.1536 -0.1000 0.1000
0.0536
DIAM 11.0000 10.9377 -0.0623 -0.2000 0.2000

POS_1 - POS/2D [HOLE_3|BOTTOM_FACE_OF_DIA_130] (HOLE_DIA_11_1)
Label Actual Bonus Band
OOT
TOL 0.3121 0.2000
0.1121

HOLE_DIA_11_2 - CIRCLE/INNER
Label Nominal Actual Deviation Lower tol. Upper tol.
X 82.5000 82.5183 0.0183 -0.1000 0.1000
Y 0.0000 -0.2266 -0.2266 -0.1000 0.1000
-0.1266
DIAM 11.0000 10.9144 -0.0856 -0.2000 0.2000

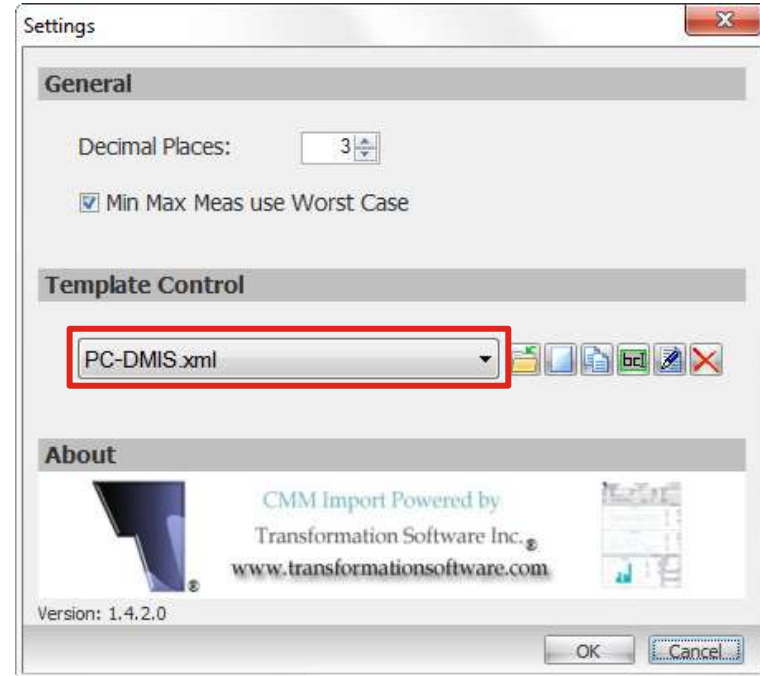
POS_2 - POS/2D [HOLE_3|BOTTOM_FACE_OF_DIA_130] (HOLE_DIA_11_2)
Label Actual Bonus Band
OOT
TOL 0.0448 0.2000

HOLE_DIA_11_3 - CIRCLE/INNER
Label Nominal Actual Deviation Lower tol. Upper tol.
X 0.0000 -0.0495 -0.0495 -0.1000 0.1000
Y 82.5000 82.4601 -0.0399 -0.1000 0.1000
```

CMM Templates

Metrostaff

- We start by selecting the PC-DMIS template to try to import the results



CMM Templates

Metrostaff

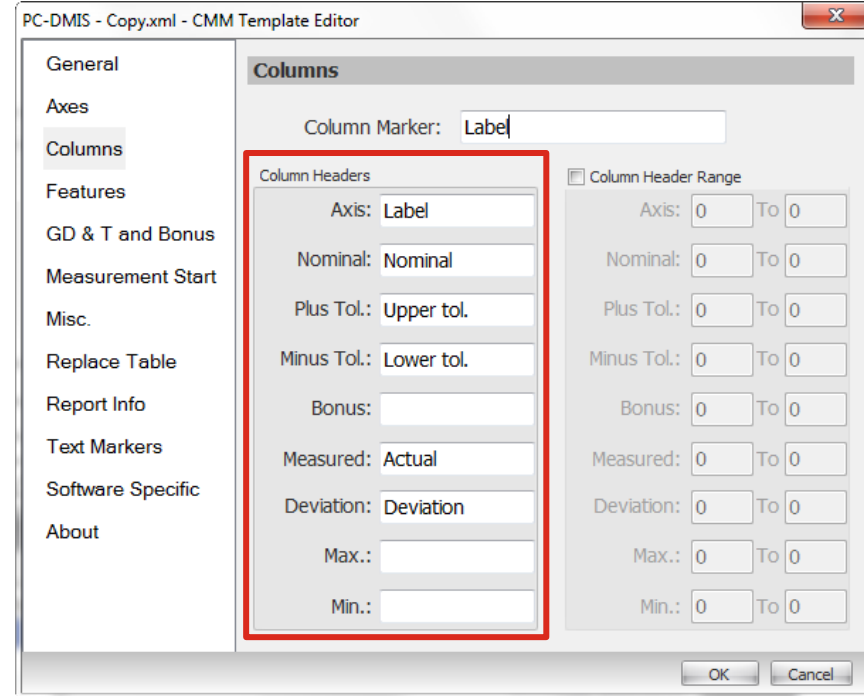
- Good news! The file is imported but we have a warning and the values are not extracted

Feature Info									1 File
Line	▲	C...	I...	Axis	Type	Nominal	+ Tol	- Tol	File 1
Char: 1									
HOLE_DIA_11_1 - CIRCLE/INNERLabel									
					Nominal	Actual	Deviation	Lower tol.	Upper tol.
>		1		X	Dim.				
		2		Y	Dim.				
		DIAM	11.0000	10.9377	-0.0623	-0.2000	0.2000	POS_1 - POS/2D	
		3		X	Dim.				
		4		Y	Dim.				
		DIAM	11.0000	10.9144	-0.0856	-0.2000	0.2000	POS_2 - POS/2D	
		5		X	Dim.				
		6		Y	Dim.				
		DIAM	11.0000	10.9160	-0.0840	-0.2000	0.2000	POS_3 - POS/2D	
		7		X	Dim.				
		8		Y	Dim.				

CMM Templates

Metrostaff

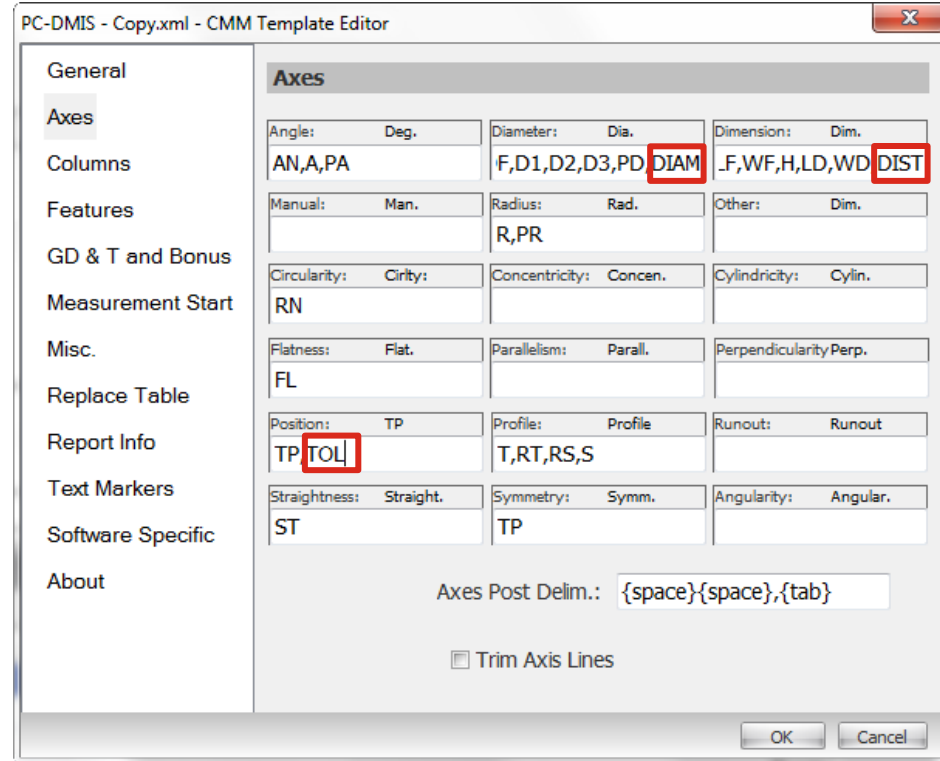
- We start by modifying the **Column Headers** to match the CMM result file



CMM Templates

Metrostaff

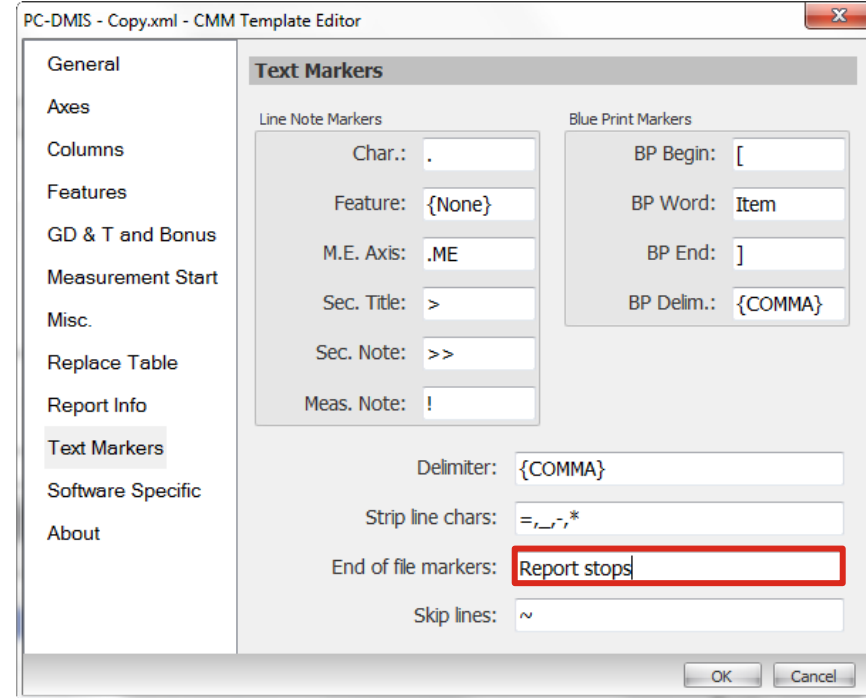
- Then, we add the missing **Axes**



CMM Templates

Metrostaff

- Finally, we update the **End of file markers** to get rid of the warning when import CMM files



CMM Templates

Metrostaff

- Now, everything is imported and extracted properly

The screenshot shows a 'CMM Data Export' window with a table of feature data. The table has columns for 'Feat', 'Type', 'Name', 'X', 'Y', 'Z', 'R', 'I', 'J', and 'K'. The data is organized into sections for different holes and features.

Feat	Type	Name	X	Y	Z	R	I	J	K
1	DIAM Dia	Ø0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	DIAM Dia	Ø0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
3	X Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	Y Dim	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	DIAM Dia	Ø0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
6	TOL TP								0.012
7	X Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	Y Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	DIAM Dia	Ø0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
10	TOL TP								0.040
11	X Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	Y Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	DIAM Dia	Ø0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
14	TOL TP								0.099
15	X Dim	-0.200	0.200	0.000	0.000	0.000	0.000	0.000	0.000
16	Y Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	DIAM Dia	Ø0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
18	TOL TP								0.028
19	TOL TP								0.058
20	DIST Dim	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	DIST Dim	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200

CMM Templates

ViciVision



CMM Templates

ViciVision

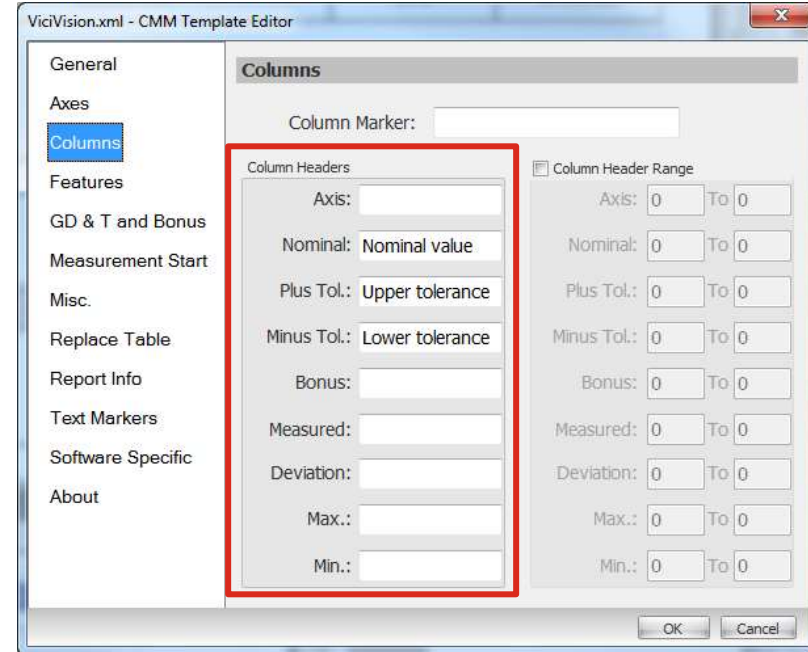
- Complex *.csv file
- Characteristics listed in **columns** not rows!
- **Multiple results** per files
- No axes!
- Not supported prior to **2015 SP4.0!**

	Ø10.12 +0	3	Ø12.10 +0	3	Ø12.10 +0	03 d	Ø12.10 +0	03 d d	Ø 14.25+0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05
Lower tol	0	0	0	0	0	0	0	0	0
Upper tol	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03
	10.1281	12.1192	12.1065	12.109	14.2974	14.9281	20.0142	17.078	17.0777
	10.1463	12.1371	12.1375	12.1073	14.3128	14.9397	20.0198	17.0552	17.0397
	Ø10.12 +0	3	Ø12.10 +0	3	Ø12.10 +0	03 d	Ø12.10 +0	03 d d	Ø 14.25+0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05
Lower tol	0	0	0	0	0	0	0	0	0
Upper tol	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03
	Ø10.12 +0	3	Ø12.10 +0	3	Ø12.10 +0	03 d	Ø12.10 +0	03 d d	Ø 14.25+0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05
Lower tol	0	0	0	0	0	0	0	0	0
Upper tol	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03

CMM Templates

ViciVision

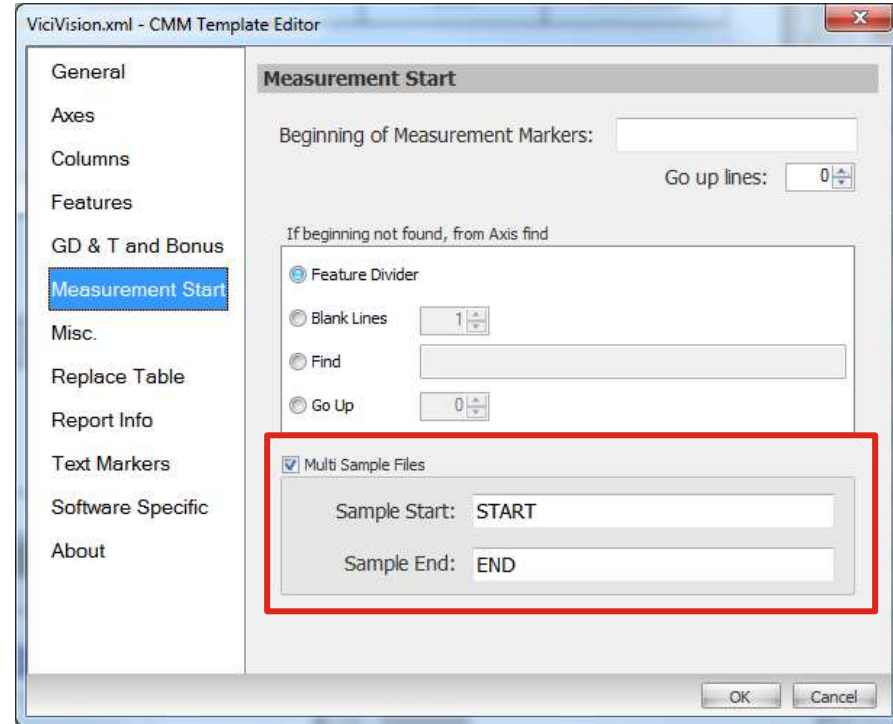
- Similar to Keyence IM template
- Update Headers



CMM Templates

ViciVision

- Since there are multiple measurements per file, we need to define a Start and End keyword



CMM Templates

ViciVision

- And update the *.csv file to add those keywords...

START	∅10.12 +0	3	∅12.10 +0	3	∅12.10 +0	03 d	∅12.10 +0	03 d d	∅ 14.25+0	14.90 +0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05	16.4
Lower tole	0	0	0	0	0	0	0	0	0	-0.1
Upper tole	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03	0.1
	10.1582	12.401	12.1441	12.1389	14.3257	14.9513	20.0418	17.0873	17.0888	16.3952
	10.146	12.1356	12.1324	12.1128	14.3088	14.9312	20.02	17.0904	17.0917	16.4004
END										
START	∅10.12 +0	3	∅12.10 +0	3	∅12.10 +0	03 d	∅12.10 +0	03 d d	∅ 14.25+0	14.90 +0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05	16.4
Lower tole	0	0	0	0	0	0	0	0	0	-0.1
Upper tole	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03	0.1
	10.1576	12.1149	12.1025	12.1287	14.2968	14.9267	20.022	17.0856	17.0834	16.3917
	10.1286	12.1153	12.107	12.1079	14.2993	14.9285	20.015	17.0819	17.0805	16.3982
END										
START	∅10.12 +0	3	∅12.10 +0	3	∅12.10 +0	03 d	∅12.10 +0	03 d d	∅ 14.25+0	14.90 +0
Nominal v	10.12	12.1	12.1	12.1	14.25	14.9	20.01	17.05	17.05	16.4
Lower tole	0	0	0	0	0	0	0	0	0	-0.1
Upper tole	0.03	0.03	0.03	0.03	0.1	0.05	0.03	0.03	0.03	0.1
END										

CMM Templates

Coord3

- Similar to Metrostaff



CMM Templates

Coord3

- The result file looks similar to PC-DMIS

report3 - Report

File Edit Format View Help

NOME progetto : C:\Dati\FCA\FCA_MONTANTE-356_GREZZO-DX\FCA_MONTANTE-356_GREZZO-DX.dwg
Inizio rapporto : 20-04-2013 11:13:02

DATE : 2015-04-30
DRAWING : 210-40824 [DX]
PROJECT : MONTANTE 356 PROTOTIPO [DX]
DETAIL : REV. 04
PART_ID : CAMPIONE DX
MATERIAL : 30 INVO 961
CAEDFILE : 356 MONTANTE FORGIATO GREZZO IN REV. 04.308
CUSTOMER : IFA
OPER_ID : RUSSO S.
NOTE : CMM COORD3 NERA 10.7.7. SW ARCO
COLLAUDO ESEGUITO IN DATA: 20/04/2013 11:13:11

SFALCAMENTO

COMPONENTE X DI TRASLAZIONE DELLO SFALCAMENTO
SFALS_X - DISTE/NOMINAL_XAXIS (ORIGINE_1 - ORIGINE_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.3622	0.3622	-0.6000	0.6000	007

COMPONENTE Y DI TRASLAZIONE DELLO SFALCAMENTO
SFALS_Y - DISTE/NOMINAL_YAXIS (ORIGINE_1 - ORIGINE_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.7234	0.7234	-0.6000	0.6000	0.1254

COMPONENTE Z DI TRASLAZIONE DELLO SFALCAMENTO
SFALS_Z - DISTE/NOMINAL_ZAXIS (ORIGINE_1 - ORIGINE_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.0324	0.0324	-0.6000	0.6000	007

COMPONENTE X DI ROTAZIONE DELLO SFALCAMENTO
ROT_SU_X - ANGLI/XYPLAN (PIANO_XY_1 - ASSE_Y_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.0042	0.0042	-0.6000	0.6000	007

COMPONENTE Y DI ROTAZIONE DELLO SFALCAMENTO
ROT_SU_Y - ANGLI/XYPLAN (PIANO_XY_1 - ASSE_X_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.0017	0.0017	-0.6000	0.6000	007

COMPONENTE Z DI ROTAZIONE DELLO SFALCAMENTO
ROT_SU_Z - ANGLI/XYPLAN (PIANO_ZX_1 - ASSE_X_2)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	0.0000	0.1893	0.1893	-0.6000	0.6000	007

QUOTA 1

DISTE_1 - DISTE/NOMINAL_ZAXIS (XY - P_6)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	48.0000	48.4402	0.4402	-0.7000	1.3000	007

QUOTA 2

DISTE_2 - DISTE/NOMINAL_XAXIS (ZY - P_5)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	107.4000	107.2162	-0.1838	-0.7000	1.5000	007

QUOTA 3

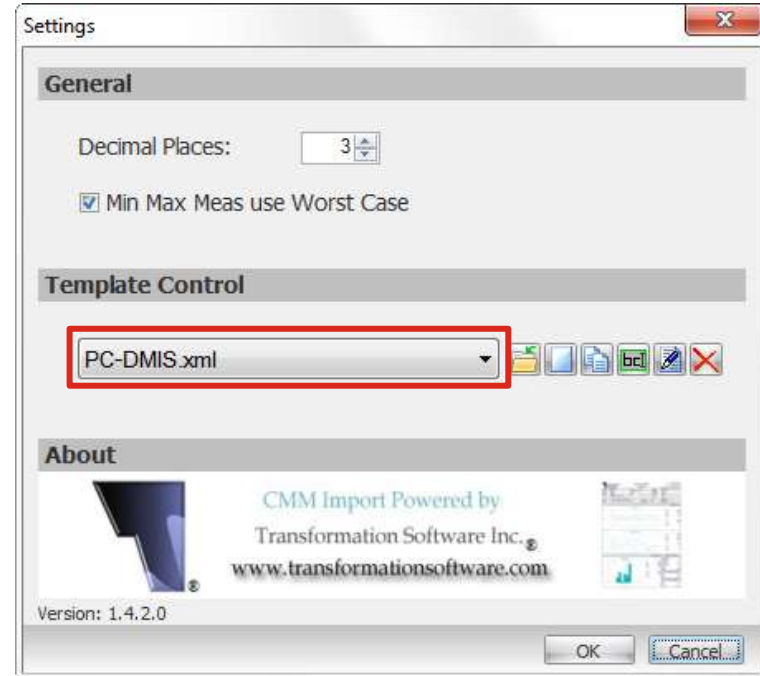
DISTE_3 - DISTE/NOMINAL_XAXIS (ZY - P_15)

Nome	Nominale	Attuale	Deviazione	Tol. inf.	Tol. sup.	
DIST	101.4000	101.3056	-0.0944	-0.7000	1.5000	007

CMM Templates

Coord3

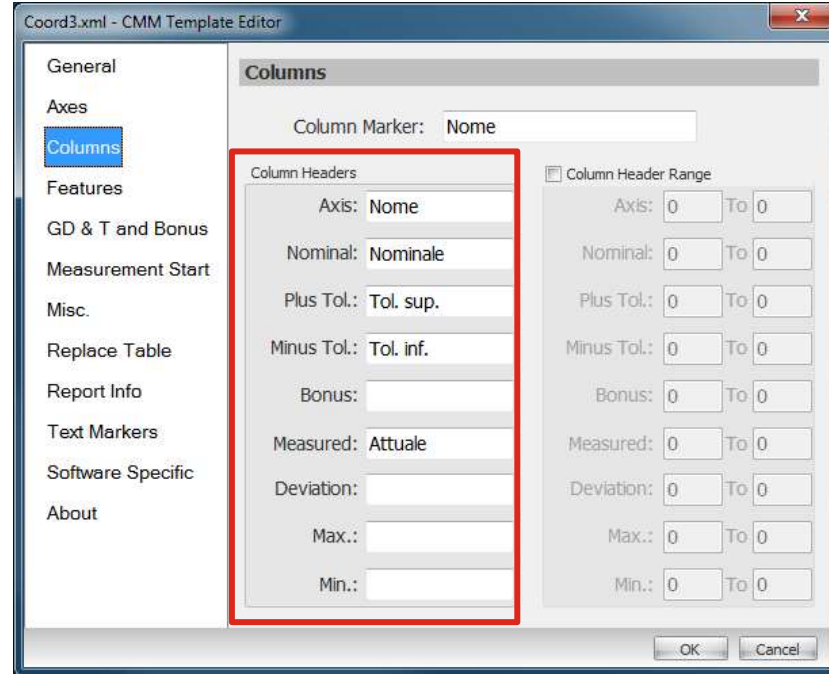
- We start by selecting the PC-DMIS template to try to import the results



CMM Templates

Coord3

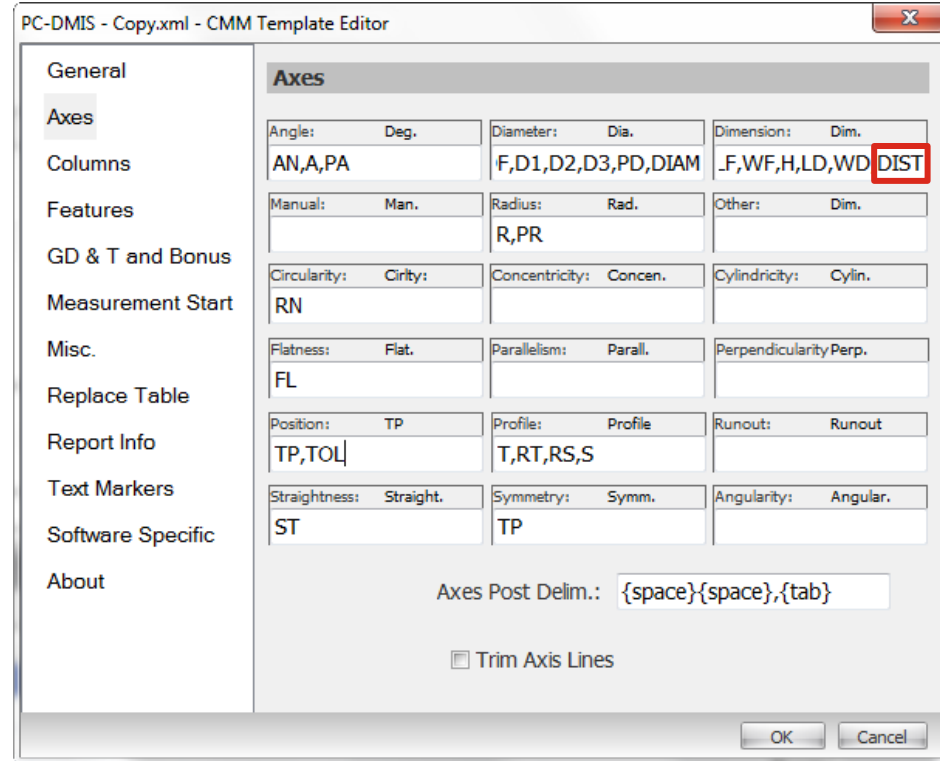
- We start by modifying the **Column Headers** to match the CMM result file



CMM Templates

Coord3

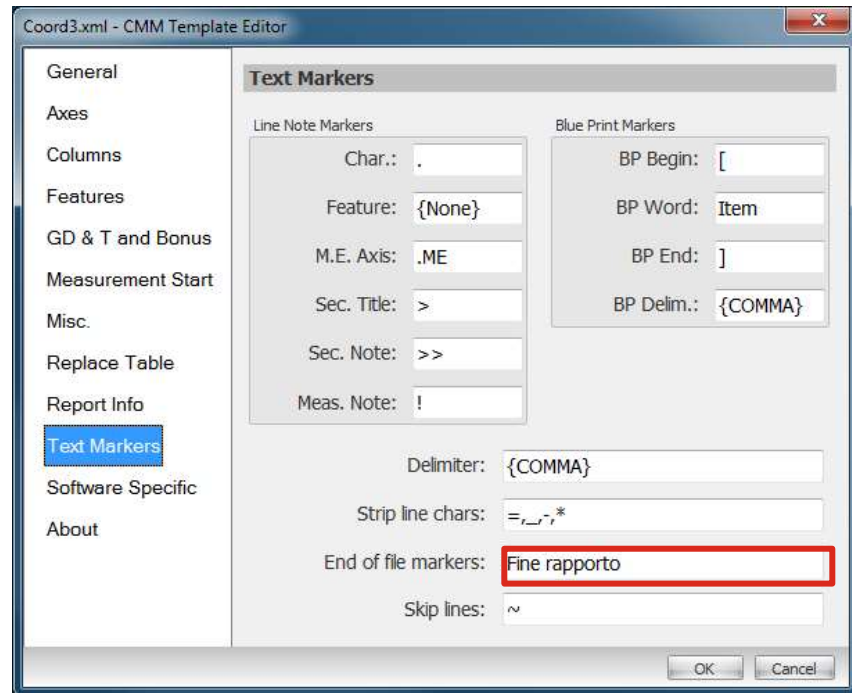
- Then, we add the missing **Axes**



CMM Templates

Coord3

- Finally, we update the **End of file markers** to get rid of the warning when import CMM files



CMM Templates

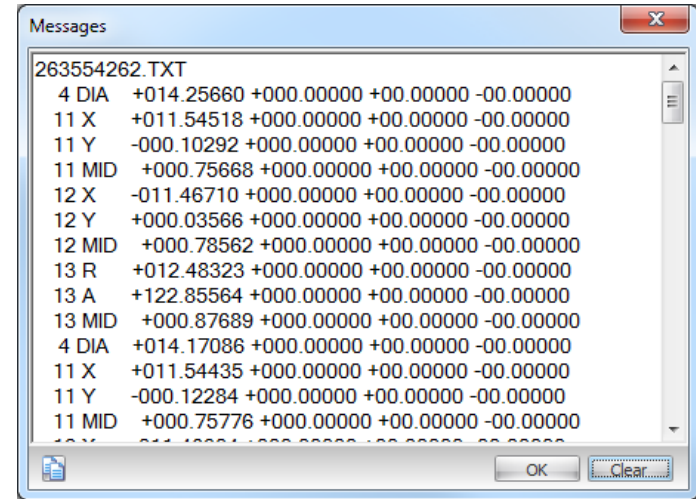
OGP MeasureMind



CMM Templates

OGP MeasureMind

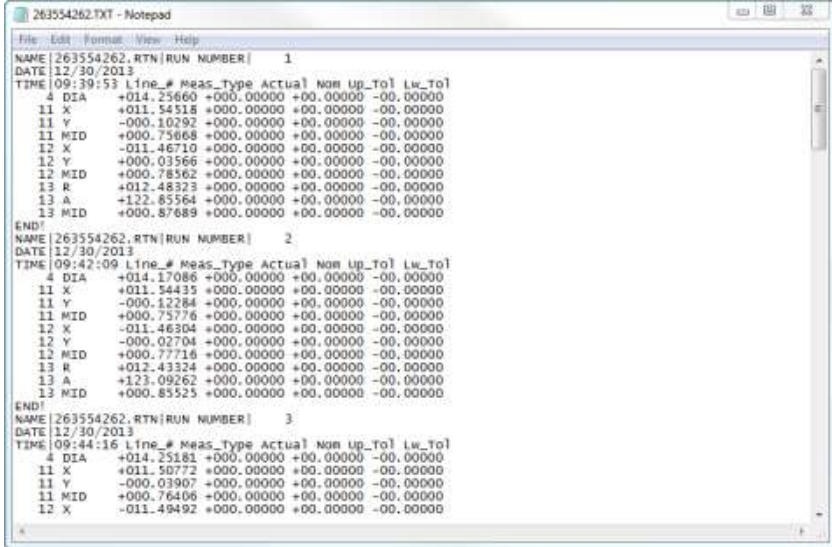
- Error when importing result file using standard OGP CMM templates



CMM Templates

OGP MeasureMind

- When looking at the result files, it looks similar to **Open DMIS**
- All the results are clearly listed in columns
- Everything is spaced properly



```
263554262.TXT - Notepad
File Edit Format View Help
NAME 263554262.RTN|RUN NUMBER| 1
DATE 12/30/2013
TIME 09:39:53 Line_# Meas_Type Actual Nom Up_To| Lw_To|
4 DIA +014.25660 +000.00000 +00.00000 -00.00000
11 X +011.54518 +000.00000 +00.00000 -00.00000
11 Y -000.10292 +000.00000 +00.00000 -00.00000
11 MID +000.75668 +000.00000 +00.00000 -00.00000
12 X -011.46710 +000.00000 +00.00000 -00.00000
12 Y +000.03566 +000.00000 +00.00000 -00.00000
12 MID +000.78562 +000.00000 +00.00000 -00.00000
13 R +012.48323 +000.00000 +00.00000 -00.00000
13 A +122.85564 +000.00000 +00.00000 -00.00000
13 MID +000.87689 +000.00000 +00.00000 -00.00000
END!
NAME 263554262.RTN|RUN NUMBER| 2
DATE 12/30/2013
TIME 09:42:09 Line_# Meas_Type Actual Nom Up_To| Lw_To|
4 DIA +014.17086 +000.00000 +00.00000 -00.00000
11 X +011.54435 +000.00000 +00.00000 -00.00000
11 Y -000.12284 +000.00000 +00.00000 -00.00000
11 MID +000.75776 +000.00000 +00.00000 -00.00000
12 X -011.46304 +000.00000 +00.00000 -00.00000
12 Y -000.02704 +000.00000 +00.00000 -00.00000
12 MID +000.77716 +000.00000 +00.00000 -00.00000
13 R +012.43324 +000.00000 +00.00000 -00.00000
13 A +123.09262 +000.00000 +00.00000 -00.00000
13 MID +000.85525 +000.00000 +00.00000 -00.00000
END!
NAME 263554262.RTN|RUN NUMBER| 3
DATE 12/30/2013
TIME 09:44:16 Line_# Meas_Type Actual Nom Up_To| Lw_To|
4 DIA +014.25181 +000.00000 +00.00000 -00.00000
11 X +011.50772 +000.00000 +00.00000 -00.00000
11 Y -000.03907 +000.00000 +00.00000 -00.00000
11 MID +000.76406 +000.00000 +00.00000 -00.00000
12 X -011.49492 +000.00000 +00.00000 -00.00000
```

CMM Templates

OGP MeasureMind

- We start by updating the **Axes** to match the CMM result file

```
263554262.TXT - Notepad
File Edit Format View Help
NAME | 263554262.RTN | RUN NUMBER | 1
DATE | 12/30/2013
TIME | 09:42:53 | Line_# Meas_Type Actual Nom Up_To1 Lw_To1
1 | DIA | +014.25660 +000.00000 +00.00000 -00.00000
1 | X | +011.54518 +000.00000 +00.00000 -00.00000
1 | Y | -000.10292 +000.00000 +00.00000 -00.00000
1 | MID | +000.75868 +000.00000 +00.00000 -00.00000
1 | X | -011.46710 +000.00000 +00.00000 -00.00000
1 | Y | +000.03566 +000.00000 +00.00000 -00.00000
1 | MID | +000.78562 +000.00000 +00.00000 -00.00000
1 | R | +012.48323 +000.00000 +00.00000 -00.00000
1 | A | -122.85553 +000.00000 +00.00000 -00.00000
1 | MID | +000.0089 +000.00000 +00.00000 -00.00000
END |
NAME | 263554262.RTN | RUN NUMBER | 2
DATE | 12/30/2013
TIME | 09:42:59 | Line_# Meas_Type Actual Nom Up_To1 Lw_To1
1 | DIA | +014.17086 +000.00000 +00.00000 -00.00000
1 | X | +011.54435 +000.00000 +00.00000 -00.00000
1 | Y | -000.12284 +000.00000 +00.00000 -00.00000
1 | MID | +000.75776 +000.00000 +00.00000 -00.00000
1 | X | -011.46304 +000.00000 +00.00000 -00.00000
1 | Y | -000.02704 +000.00000 +00.00000 -00.00000
1 | MID | +000.77716 +000.00000 +00.00000 -00.00000
1 | R | +012.43324 +000.00000 +00.00000 -00.00000
1 | A | +123.09262 +000.00000 +00.00000 -00.00000
1 | MID | +000.85525 +000.00000 +00.00000 -00.00000
END |
NAME | 263554262.RTN | RUN NUMBER | 3
DATE | 12/30/2013
TIME | 09:44:16 | Line_# Meas_Type Actual Nom Up_To1 Lw_To1
1 | DIA | +014.25181 +000.00000 +00.00000 -00.00000
1 | X | +011.50772 +000.00000 +00.00000 -00.00000
1 | Y | -000.03907 +000.00000 +00.00000 -00.00000
1 | MID | +000.76406 +000.00000 +00.00000 -00.00000
1 | X | -011.49492 +000.00000 +00.00000 -00.00000
```

Open DMIS - MeasureMind.xml - CMM Template Editor

General

Axes

Angle:	Deg.	Diameter:	Dia.	Dimension:	Dim.
A		DIA, DIAM		X,Y,MID	
Manual:	Man.	Radius:	Rad.	Other:	Dim.
		R			
Circularity:	Cirity:	Concentricity:	Concen.	Cylindricity:	Cylin.
Flatness:	Flat.	Parallelism:	Parall.	Perpendicularity:	Perp.
Position:	TP	Profile:	Profile	Runout:	Runout
Straightness:	Straight.	Symmetry:	Symm.	Angularity:	Angular.

Misc.

Replace Table

Report Info

Text Markers

Software Specific

About

Axes Post Delim.: {space}

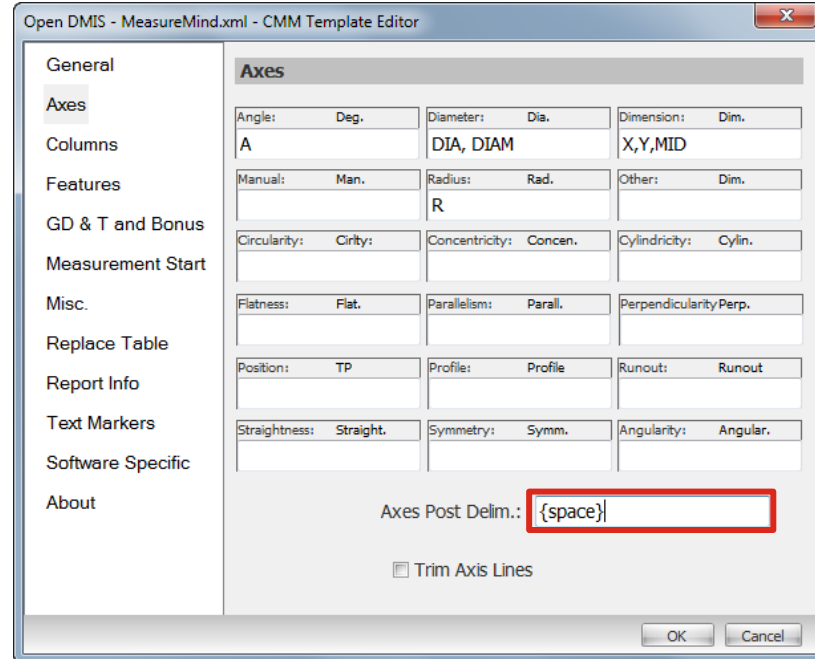
Trim Axis Lines

OK Cancel

CMM Templates

OGP MeasureMind

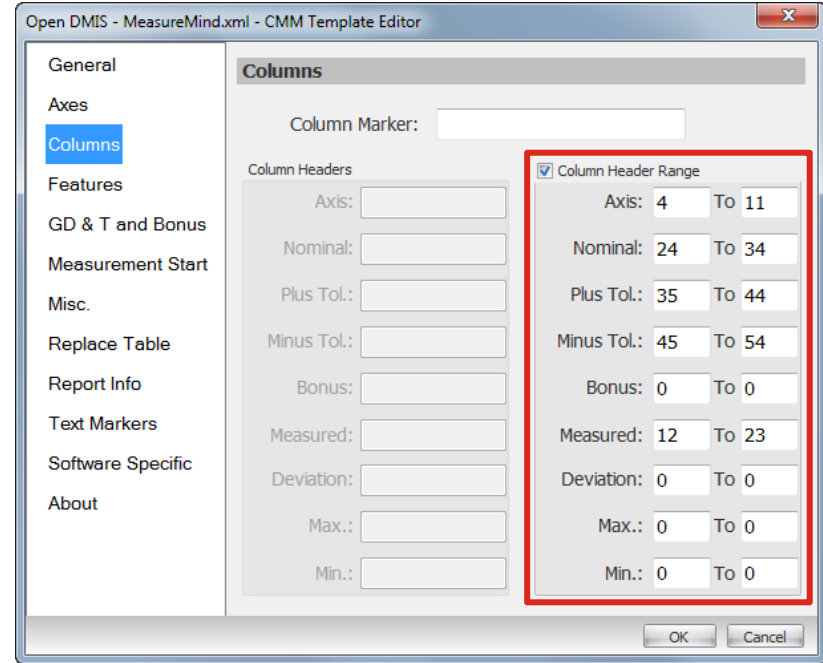
- Don't forget to change the delimiter. Axes / Results are separated by **{space}** not {comma}



CMM Templates

OGP MeasureMind

- Define the range of the columns



CMM Templates

OGP MeasureMind

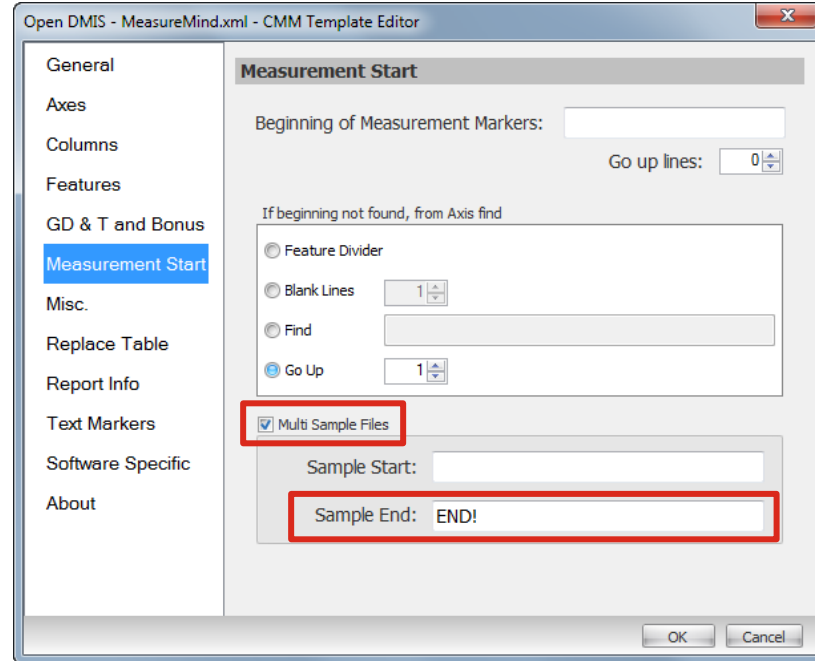
- There are multiple measurements sets delimited by the keyword **END!**

```
263554262.TXT - Notepad
File Edit Format View Help
NAME |263554262, RTN|RUN NUMBER| 1
DATE |12/30/2013
TIME |09:44:16 Line_# Meas_Type Actual Nom Up_To Lw_To
4 DIA +014.25660 +000.00000 +00.00000 -00.00000
11 X +011.54518 +000.00000 +00.00000 -00.00000
11 Y -000.10292 +000.00000 +00.00000 -00.00000
11 MID +000.75868 +000.00000 +00.00000 -00.00000
12 X -011.46710 +000.00000 +00.00000 -00.00000
12 Y +000.03566 +000.00000 +00.00000 -00.00000
12 MID +000.78562 +000.00000 +00.00000 -00.00000
13 R +012.48323 +000.00000 +00.00000 -00.00000
13 A -122.85564 +000.00000 +00.00000 -00.00000
13 MTD +000.87889 +000.00000 +00.00000 -00.00000
END!
NAME |263554262, RTN|RUN NUMBER| 2
DATE |12/30/2013
TIME |09:44:16 Line_# Meas_Type Actual Nom Up_To Lw_To
4 DIA +014.17086 +000.00000 +00.00000 -00.00000
11 X +011.54435 +000.00000 +00.00000 -00.00000
11 Y -000.12284 +000.00000 +00.00000 -00.00000
11 MID +000.75776 +000.00000 +00.00000 -00.00000
12 X -011.46304 +000.00000 +00.00000 -00.00000
12 Y -000.02704 +000.00000 +00.00000 -00.00000
12 MID +000.77716 +000.00000 +00.00000 -00.00000
13 R +012.43324 +000.00000 +00.00000 -00.00000
13 A -123.09262 +000.00000 +00.00000 -00.00000
13 MTD +000.85325 +000.00000 +00.00000 -00.00000
END!
NAME |263554262, RTN|RUN NUMBER| 3
DATE |12/30/2013
TIME |09:44:16 Line_# Meas_Type Actual Nom Up_To Lw_To
4 DIA +014.25181 +000.00000 +00.00000 -00.00000
11 X +011.50772 +000.00000 +00.00000 -00.00000
11 Y -000.03907 +000.00000 +00.00000 -00.00000
11 MID +000.76406 +000.00000 +00.00000 -00.00000
12 X -011.49492 +000.00000 +00.00000 -00.00000
```

CMM Templates

OGP MeasureMind

- That's why you need in **Measurement Start** to check **Multi Sample Files** and indicate the sample end: **END!**



CMM Templates

OGP MeasureMind

- For some reasons, the Diameter DIA shows up as an ANGLE in Degrees.

```
TIME|09:39:53 Line_# Meas_Type Actual Nom Up_Tol Lw_Tol  
4 DIA +014.25660 +000.00000 +00.00000 -00.00000  
11 X +011.54518 +000.00000 +00.00000 -00.00000  
11 Y -000.10292 +000.00000 +00.00000 -00.00000  
11 MID +000.75668 +000.00000 +00.00000 -00.00000
```

Line	Char #	Item #	Axis	Type	Nominal	+Tol	-Tol	File1	File2
Char: 1									
	1		A	Deg.	0.000	0.000	0.000	14.257	14.171
	2		X	Dim.	0.000	0.000	0.000	11.545	11.544

CMM Templates

OGP MeasureMind

- The CMM results are now properly imported!

The screenshot displays a software interface with a table titled 'Feature Info' and '20 Files'. The table lists 14 features with their respective dimensions and measurement values across multiple files. The columns are: Line, Type, Nonnal, + Tol, - Tol, &, File1, File2, File3, File4, File5, File6, File7, File8, and File9.

Line	Type	Nonnal	+ Tol	- Tol	&	File1	File2	File3	File4	File5	File6	File7	File8	File9	
1	Dia.	0.000	0.000	0.000		14.257	14.171	14.252	14.244	14.237					
2	X Dim.	0.000	0.000	0.000		11.545	11.544	11.508	11.526	11.507					
3	Y Dim.	0.000	0.000	0.000		-0.103	-0.123	-0.039	-0.088	-0.091					
4	MID Dim.	0.000	0.000	0.000		0.757	0.758	0.764	0.762	0.758					
5	X Dim.	0.000	0.000	0.000		-11.467	-11.463	-11.495	-11.490	-11.501					
6	Y Dim.	0.000	0.000	0.000		0.036	-0.027	0.023	0.013	0.019					
7	MID Dim.	0.000	0.000	0.000		0.786	0.777	0.789	0.773	0.786					
8	R Rad.	0.000	0.000	0.000		12.483	12.433	12.504	12.474	12.478					
9	A Deg.	0.000	0.000	0.000		122.856	123.093	123.110	123.112	123.105					
10	MID Dim.	0.000	0.000	0.000		0.877	0.855	0.867	0.865	0.873					
11	X Dim.	0.000	0.000	0.000									-3.091	-2.993	-3.098
12	Y Dim.	0.000	0.000	0.000									-1.558	-1.586	-1.597
13	X Dim.	0.000	0.000	0.000									3.025	3.072	3.026
14	Y Dim.	0.000	0.000	0.000									-1.496	-1.521	-1.550

CMM Templates

MCosmos – Type 2



CMM Templates

MCosmos – Type 2

- The result file is imported and parsed. However, some values are incorrectly grouped...

Line	Char #	Item #	Axis	Type	Nominal	+ Tol	- Tol	File1
02 flatness of -A-								
CPS31525901-503-504-FINISH REV NEW								
Plane								
1			FLATNESS	Flat.		0.02000		0.003520.00352
02 flatness of -B-								
Plane								
2			FLATNESS	Flat.		0.02000		0.001280.00128
Distance to inside of clevis, opp -A- side								
Point								
3			Position Y	Dim.	0.25500	0.01000	0.01000	0.25452-0.00048
Point								
4			Position Y	Dim.	0.25500	0.01000	0.01000	0.25438-0.00062
5			Position Y	Dim.	0.25500	0.01000	0.01000	0.25348-0.00152
6			Position Y	Dim.	0.25500	0.01000	0.01000	0.25418-0.00082
7			Position Y	Dim.	0.25500	0.01000	0.01000	0.25499-0.00001
8			Position Y	Dim.	0.25500	0.01000	0.01000	0.25461-0.00039
Distance to inside of clevis, -A- side								
Point								
9			Position Y	Dim.	-0.255000.01000		0.01000	-0.25506-0.00006
Point								
10			Position Y	Dim.	-0.255000.01000		0.01000	-0.25737-0.00237
11			Position Y	Dim.	-0.255000.01000		0.01000	-0.254110.00089
12			Position Y	Dim.	-0.255000.01000		0.01000	-0.25504-0.00004
13			Position Y	Dim.	-0.255000.01000		0.01000	-0.254720.00028

CMM Templates

MCosmos – Type 2

- This is due to the result file itself where in some cases the nominal value and the upper tolerance or the measured value and the deviation are not **spaced** properly – probably due to the precision used
- You have things like - 0.255000.01000 that the software doesn't know how to parse

162	23	Point	0.25500	0.01000	0.25452-0.00048
		Position Y		-0.01000	
166	24	Point	0.25500	0.01000	0.25438-0.00062
		Position Y		-0.01000	
170	25	Point	0.25500	0.01000	0.25348-0.00152
		Position Y		-0.01000	
205	32	Point	0.25500	0.01000	0.25418-0.00082
		Position Y		-0.01000	
209	33	Point	0.25500	0.01000	0.25499-0.00001
		Position Y		-0.01000	
213	34	Point	0.25500	0.01000	0.25461-0.00039
		Position Y		-0.01000	
		Distance to inside of clevis, -A- side			
216	31	Point	-0.255000	.01000	-0.25506-0.00006
		Position Y		-0.01000	
217	30	Point	-0.255000	.01000	-0.25737-0.00237
		Position Y		-0.01000	
218	29	Point	-0.255000	.01000	-0.254110.00089
		Position Y		-0.01000	
219	28	Point	-0.255000	.01000	-0.25504-0.00004
		Position Y		-0.01000	
220	27	Point	-0.255000	.01000	-0.254720.00028
		Position Y		-0.01000	
221	26	Point	-0.255000	.01000	-0.25641-0.00141
		Position Y		-0.01000	

CMM Templates

MCosmos – Type 2

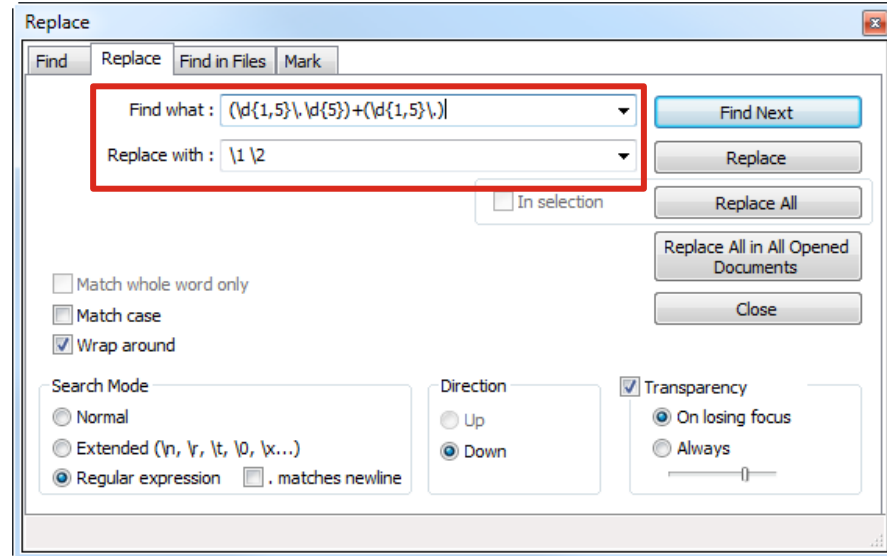
- The easiest way to fix this is to ask the CMM Programmer to update the files. The CMM Programmer might also reduce the precision from 5 digits to 4 digits.

162	23	Point	0.25500	0.01000	0.25452-0.00048
		Position Y		-0.01000	
166	24	Point	0.25500	0.01000	0.25438-0.00062
		Position Y		-0.01000	
170	25	Point	0.25500	0.01000	0.25348-0.00152
		Position Y		-0.01000	
205	32	Point	0.25500	0.01000	0.25418-0.00082
		Position Y		-0.01000	
209	33	Point	0.25500	0.01000	0.25499-0.00001
		Position Y		-0.01000	
213	34	Point	0.25500	0.01000	0.25461-0.00039
		Position Y		-0.01000	
		Distance to inside of clevis, -A- side			
216	31	Point	-0.255000	0.01000	-0.25506-0.00006
		Position Y		-0.01000	
217	30	Point	-0.255000	0.01000	-0.25737-0.00237
		Position Y		-0.01000	
218	29	Point	-0.255000	0.01000	-0.254110.00089
		Position Y		-0.01000	
219	28	Point	-0.255000	0.01000	-0.25504-0.00004
		Position Y		-0.01000	
220	27	Point	-0.255000	0.01000	-0.254720.00028
		Position Y		-0.01000	
221	26	Point	-0.255000	0.01000	-0.25641-0.00141
		Position Y		-0.01000	

CMM Templates

MCosmos – Type 2

- Otherwise, this can be solved using **Regular Expression (RegEx)** with **NotePad++** for example.
- Things like **-0.255000.01000** will be replaced automatically by **-0.25500**
0.01000



CMM Templates

MCosmos – Type 2

- We find:

$(\backslash d\{1,5\}\.\backslash d\{1,5\}) + (\backslash d\{1,5\}\.)$

Group 1: 1 to 5 digits ($\backslash d\{1,5\}$), followed by a “period” ($\.$), followed by 1 to 5 digits ($\backslash d\{1,5\}$)

Group 2: 1 to 5 digits ($\backslash d\{1,5\}$), followed by a “period” ($\.$)

- And replace it with:

$\backslash 1 \backslash 2$

$\backslash 1$ = Group 1

“ ” = a “space”

$\backslash 2$ = Group 2

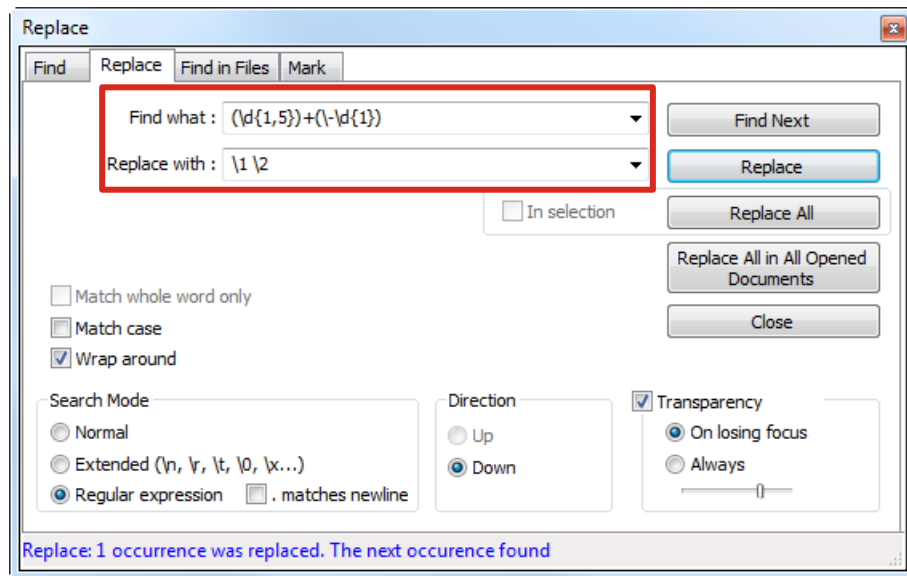
-0.255000.01000 will be replaced automatically by **-0.25500 0.01000**



CMM Templates

MCosmos – Type 2

- We use the same technique to replace **0.25452-0.00048** with **0.25452 -0.00048**



CMM Templates

MCosmos – Type 2

- After all this, we can save the file and re-import it inside SOLIDWORKS Inspection

Feature Info									1 File
Line	Char #	Item #	Axis	Type	Nominal	+ Tol	- Tol	File 1	
02 flatness of -A-									
CPS315z5901 -503 -504-FINISH REV NEW									
Plane									
1			FLATNESS	Flat.		0.02000		0.00352	
02 flatness of -B-									
Plane									
2			FLATNESS	Flat.		0.02000		0.00128	
Distance to inside of clevis, opp -A- side									
Point									
3			Position Y	Dim.	0.25500	0.01000	0.01000	0.25452	
Point									
4			Position Y	Dim.	0.25500	0.01000	0.01000	0.25438	
5			Position Y	Dim.	0.25500	0.01000	0.01000	0.25348	
6			Position Y	Dim.	0.25500	0.01000	0.01000	0.25418	
7			Position Y	Dim.	0.25500	0.01000	0.01000	0.25499	
8			Position Y	Dim.	0.25500	0.01000	0.01000	0.25461	
Distance to inside of clevis, -A- side									
Point									
9			Position Y	Dim.	-0.25500	0.01000	0.01000	-0.25506	
Point									
10			Position Y	Dim.	-0.25500	0.01000	0.01000	-0.25737	
11			Position Y	Dim.	-0.25500	0.01000	0.01000	-0.25411	
12			Position Y	Dim.	-0.25500	0.01000	0.01000	-0.25504	
13			Position Y	Dim.	-0.25500	0.01000	0.01000	-0.25472	

CMM Templates

Metrologic

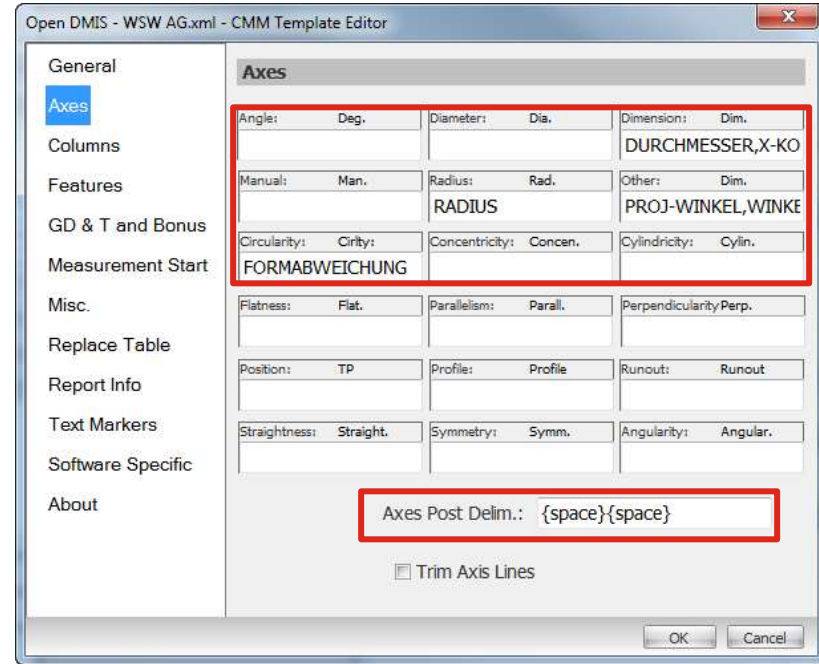
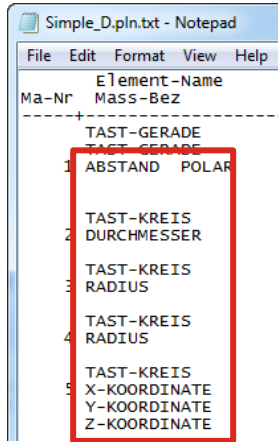
- CMM results file can't be imported inside SOLIDWORKS Inspection using default CMM templates

Ma-Nr	Element-Name	E1-Nr	Bezug	Anz TP	Spannweite	Abweichung	Grafik
	Mass-Bez	Nennwert	0-To1	U-To1	Istmass		
	TAST-GERADE	2	X-Y	3	0.000		
	TAST-GERADE	12	X-Y	3	0.006		
1	ABSTAND POLAR	37.000	0.300	-0.300	36.902	-0.098	-----*
	TAST-KREIS	4	X-Y	4	0.002		
2	DURCHMESSER	6.500	0.200	-0.200	6.548	0.048	-----*
	TAST-KREIS	11	X-Y	4	0.000		
3	RADIUS	39.000	0.300	-0.300	39.041	0.041	-----*
	TAST-KREIS	10	X-Y	4	0.007		
4	RADIUS	48.000	0.300	-0.300	47.893	-0.107	-----*
	TAST-KREIS	8	X-Y	4	0.008		
5	X-KOORDINATE	10.000	0.200	-0.200	10.089	0.089	-----*
	Y-KOORDINATE	-150.500	0.500	-0.500	-150.386	0.114	-----*
	Z-KOORDINATE	0.000	0.100	-0.100	0.000	0.000	-----*
	TAST-KREIS	10	X-Y	4	0.007		
6	FORMABWEICHUNG	0.000	0.050		0.007	0.007	-----*
	TAST-EBENE	1	Z-B	5	0.018		
7	FORMABWEICHUNG	0.000	0.050		0.018	0.018	-----*
	TAST-GERADE	12	X-Y	3	0.006		
8	FORMABWEICHUNG	0.000	0.050		0.006	0.006	-----*
	TAST-GERADE	13	X-Y	3	0.002		
	TAST-GERADE	9	X-Y	3	0.018		
9	PROJ-WINKEL X-Y	0.100	0.020	-0.020	0.087	-0.013	-----*
	PROJ-WINKEL Y-Z	180.000	0.020	-0.020	180.000	0.000	-----*
	PROJ-WINKEL Z-X	180.000	0.020	-0.020	180.000	0.000	-----*
	TAST-GERADE	13	X-Y	3	0.002		
	TAST-GERADE	9	X-Y	3	0.018		
10	WINKEL DEZ	0.100	0.020	-0.020	0.087	-0.013	-----*
	TAST-KREIS	7	X-Y	4	0.000		
11	X-KOORDINATE	-28.900	0.200	-0.200	-28.901	-0.001	-----*
	Y-KOORDINATE	-150.400	0.500	-0.500	-150.443	-0.043	-----*

CMM Templates

Metrologic

- We start by modifying the **Axes**



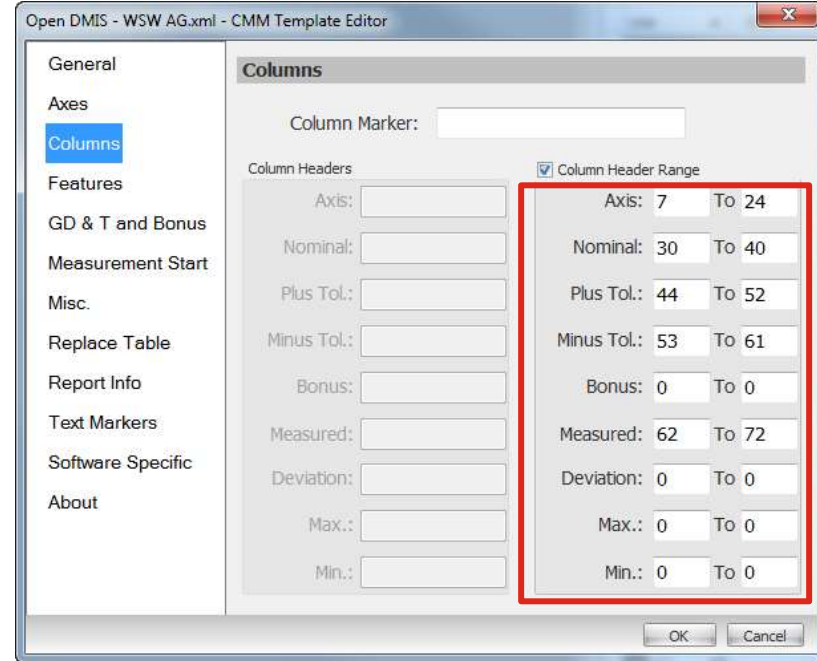
CMM Templates

Metrologic

- Then we define the **Column Header Range** to match what we have in the document

Simple_D.pln.txt - Notepad

Ma-Nr	Element-Name Mass-Bez	E1-Nr Nennwert	Bezug O-To1	Anz TP U-To1	Spannweite Istmass	Abweichung
	TAST-GERADE	2	X-Y	3	0.000	
	TAST-GERADE	12	X-Y	3	0.006	
1	ABSTAND POLAR	37.000	0.300	-0.300	36.902	-0.098



CMM Templates

Metrologic

- That's it!

Feature Info									1 File
Line	▲	Char #	Item #	Axis	Type	Nominal	+ Tol	- Tol	File 1
Char: 1									
TAST-GERADE 12 X-Y 3 0.006									
1				ABSTAND P...	Dim.	37.00000	0.30000	0.30000	36.90200
TAST-KREIS 4 X-Y 4 0.002									
2				DURCHMESSER	Dim.	6.50000	0.20000	0.20000	6.54800
TAST-KREIS 11 X-Y 4 0.000									
3				RADIUS	Rad.	39.00000	0.30000	0.30000	39.04100
TAST-KREIS 10 X-Y 4 0.007									
4				RADIUS	Rad.	48.00000	0.30000	0.30000	47.89300
TAST-KREIS 8 X-Y 4 0.008									
5				X-KOORDINATE	Dim.	10.00000	0.20000	0.20000	10.08900
6				Y-KOORDINATE	Dim.	-150.50000	0.50000	0.50000	-150.38600
7				Z-KOORDINATE	Dim.	0.00000	0.10000	0.10000	0.00000
TAST-KREIS 10 X-Y 4 0.007									
8				FORMABWEI...	Cirly.	0.00000	0.05000		0.00700
TAST-EBENE 1 3-D 5 0.018									
9				FORMABWEI...	Cirly.	0.00000	0.05000		0.01800
TAST-GERADE 12 X-Y 3 0.006									
10				FORMABWEI...	Cirly.	0.00000	0.05000		0.00600

CMM Templates

Nikon VM

- We try to work with the *.csv document and it doesn't work so we switch our effort to the *.txt CMM results file

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
			Nominal	Obere Tol	Untere To	11	12	13	14	15	16	17	18	19	20	
108.Absta L	3.65	0.2	-0.2	3.881	3.768	3.883	3.763	3.795	3.76	3.759	3.889	3.889	3.871			
114.Absta L	3.65	0.2	-0.2	3.755	3.887	3.754	3.876	3.878	3.887	3.889	3.755	3.756	3.759			
115.Absta L	3.65	0.2	-0.2	3.799	3.716	3.803	3.715	3.711	3.713	3.714	3.81	3.801	3.798			
53.Statisti MAX	20	0.1	-0.1	20.056	20.065	20.056	20.060	20.07	20.062	20.062	20.057	20.062	20.059			
53.Statisti MIN	20	0.1	-0.1	18.346	18.312	18.351	18.335	18.333	18.333	18.331	18.346	18.342	18.344			
57.Statisti AVE	12.5	0.1	-0.1	12.524	12.503	12.519	12.496	12.503	12.504	12.503	12.505	12.523	12.506			
61.Statisti AVE	45	0.2	-0.2	44.957	44.964	44.961	44.959	44.954	44.956	44.986	44.957	44.951	44.956			
101.Statisti MAX	74.5	0.2	-0.2	74.471	74.456	74.471	74.472	74.489	74.48	74.48	74.478	74.469	74.476			
101.Statisti MIN	74.5	0.2	-0.2	74.433	74.455	74.436	74.454	74.444	74.448	74.456	74.45	74.425	74.447			
84.Statisti MAX	84	0.15	-0.15	83.95	83.947	83.949	83.947	83.943	83.951	83.947	83.951	83.952	83.95			
84.Statisti MIN	84	0.15	-0.15	83.937	83.937	83.937	83.942	83.935	83.934	83.942	83.937	83.946	83.94			
86.Statisti AVE	8	0.08	0	8.052	8.075	8.054	8.074	8.074	8.074	8.074	8.068	8.065	8.071			
88.Statisti AVE	8	0.08	0	8.055	8.071	8.065	8.072	8.066	8.07	8.071	8.073	8.064	8.072			



CMM Templates

Nikon VM

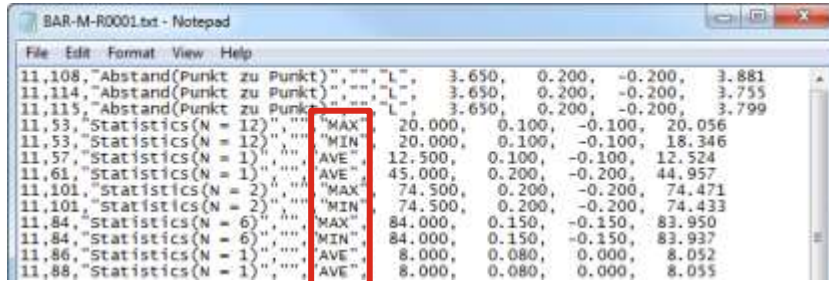
- The *.txt is fairly straight forward
- CSV structure with {comma} and text delimited with “”
- That’s why we start by editing the **CSV** template!

```
BAR-M-R0001.txt - Notepad
File Edit Format View Help
11,108,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.881
11,114,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.755
11,115,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.799
11,53,"Statistics(N = 12)",,,,MAX", 20.000, 0.100, -0.100, 20.056
11,53,"Statistics(N = 12)",,,,MIN", 20.000, 0.100, -0.100, 18.346
11,57,"Statistics(N = 1)",,,,AVE", 12.500, 0.100, -0.100, 12.524
11,61,"Statistics(N = 1)",,,,AVE", 45.000, 0.200, -0.200, 44.957
11,101,"Statistics(N = 2)",,,,MAX", 74.500, 0.200, -0.200, 74.471
11,101,"Statistics(N = 2)",,,,MIN", 74.500, 0.200, -0.200, 74.433
11,84,"Statistics(N = 6)",,,,MAX", 84.000, 0.150, -0.150, 83.950
11,84,"Statistics(N = 6)",,,,MIN", 84.000, 0.150, -0.150, 83.937
11,86,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.052
11,88,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.055
12,108,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.768
12,114,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.867
12,115,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.716
12,53,"Statistics(N = 12)",,,,MAX", 20.000, 0.100, -0.100, 20.065
12,53,"Statistics(N = 12)",,,,MIN", 20.000, 0.100, -0.100, 18.332
12,57,"Statistics(N = 1)",,,,AVE", 12.500, 0.100, -0.100, 12.503
12,61,"Statistics(N = 1)",,,,AVE", 45.000, 0.200, -0.200, 44.964
12,101,"Statistics(N = 2)",,,,MAX", 74.500, 0.200, -0.200, 74.456
12,101,"Statistics(N = 2)",,,,MIN", 74.500, 0.200, -0.200, 74.455
12,84,"Statistics(N = 6)",,,,MAX", 84.000, 0.150, -0.150, 83.947
12,84,"Statistics(N = 6)",,,,MIN", 84.000, 0.150, -0.150, 83.937
12,86,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.075
12,88,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.071
13,108,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.883
13,114,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.754
13,115,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.803
13,53,"Statistics(N = 12)",,,,MAX", 20.000, 0.100, -0.100, 20.056
13,53,"Statistics(N = 12)",,,,MIN", 20.000, 0.100, -0.100, 18.351
13,57,"Statistics(N = 1)",,,,AVE", 12.500, 0.100, -0.100, 12.519
13,61,"Statistics(N = 1)",,,,AVE", 45.000, 0.200, -0.200, 44.961
13,101,"Statistics(N = 2)",,,,MAX", 74.500, 0.200, -0.200, 74.471
13,101,"Statistics(N = 2)",,,,MIN", 74.500, 0.200, -0.200, 74.436
13,84,"Statistics(N = 6)",,,,MAX", 84.000, 0.150, -0.150, 83.949
13,84,"Statistics(N = 6)",,,,MIN", 84.000, 0.150, -0.150, 83.937
13,86,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.054
13,88,"Statistics(N = 1)",,,,AVE", 8.000, 0.080, 0.000, 8.065
14,108,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.763
14,114,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.876
14,115,"Abstand(Punkt zu Punkt)",,,,L", 3.650, 0.200, -0.200, 3.715
14,53,"Statistics(N = 12)",,,,MAX", 20.000, 0.100, -0.100, 20.068
14,53,"Statistics(N = 12)",,,,MIN", 20.000, 0.100, -0.100, 18.335
14,57,"Statistics(N = 1)",,,,AVE", 12.500, 0.100, -0.100, 12.486
14,61,"Statistics(N = 1)",,,,AVE", 45.000, 0.200, -0.200, 44.959
14,101,"Statistics(N = 2)",,,,MAX", 74.500, 0.200, -0.200, 74.472
14,101,"Statistics(N = 2)",,,,MIN", 74.500, 0.200, -0.200, 74.454
14,84,"Statistics(N = 6)",,,,MAX", 84.000, 0.150, -0.150, 83.947
14,84,"Statistics(N = 6)",,,,MIN", 84.000, 0.150, -0.150, 83.942
```

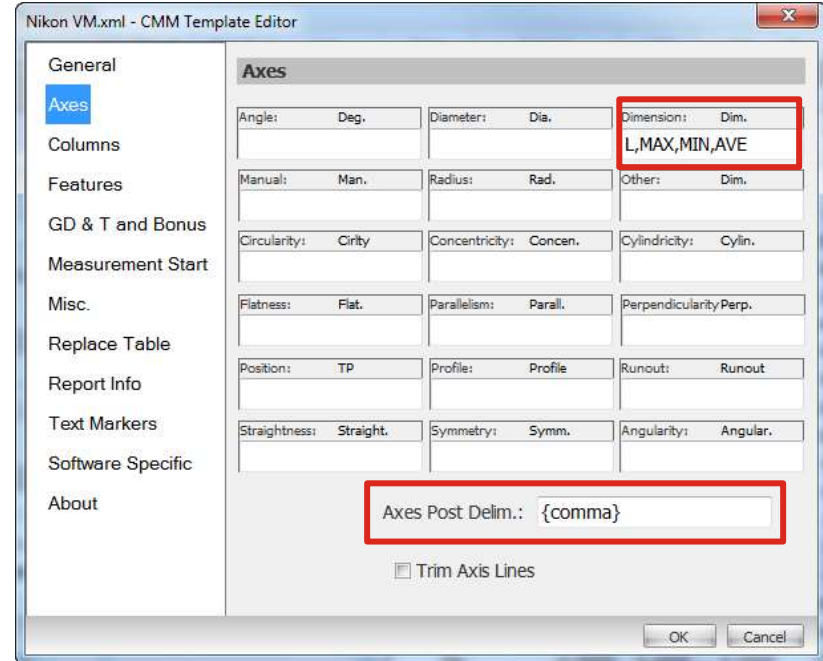
CMM Templates

Nikon VM

- We then modify the **Axes** to match the document
- And change the delimiter to **{comma}**



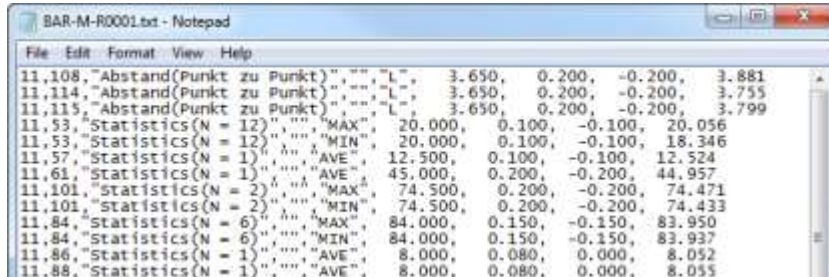
```
BAR-M-R0001.txt - Notepad
File Edit Format View Help
11,108,"Abstand(Punkt zu Punkt)" "L" "L" 3.650, 0.200, -0.200, 3.881
11,114,"Abstand(Punkt zu Punkt)" "L" "L" 3.650, 0.200, -0.200, 3.755
11,115,"Abstand(Punkt zu Punkt)" "L" "L" 3.650, 0.200, -0.200, 3.799
11,53,"Statistics(N = 12)" "MAX" 20.000, 0.100, -0.100, 20.056
11,53,"Statistics(N = 12)" "MIN" 20.000, 0.100, -0.100, 18.346
11,57,"Statistics(N = 1)" "AVE" 12.500, 0.100, -0.100, 12.524
11,61,"Statistics(N = 1)" "AVE" 45.000, 0.200, -0.200, 44.957
11,101,"Statistics(N = 2)" "MAX" 74.500, 0.200, -0.200, 74.471
11,101,"Statistics(N = 2)" "MIN" 74.500, 0.200, -0.200, 74.433
11,84,"Statistics(N = 6)" "MAX" 84.000, 0.150, -0.150, 83.950
11,84,"Statistics(N = 6)" "MIN" 84.000, 0.150, -0.150, 83.937
11,86,"Statistics(N = 1)" "AVE" 8.000, 0.080, 0.000, 8.052
11,88,"Statistics(N = 1)" "AVE" 8.000, 0.080, 0.000, 8.055
```



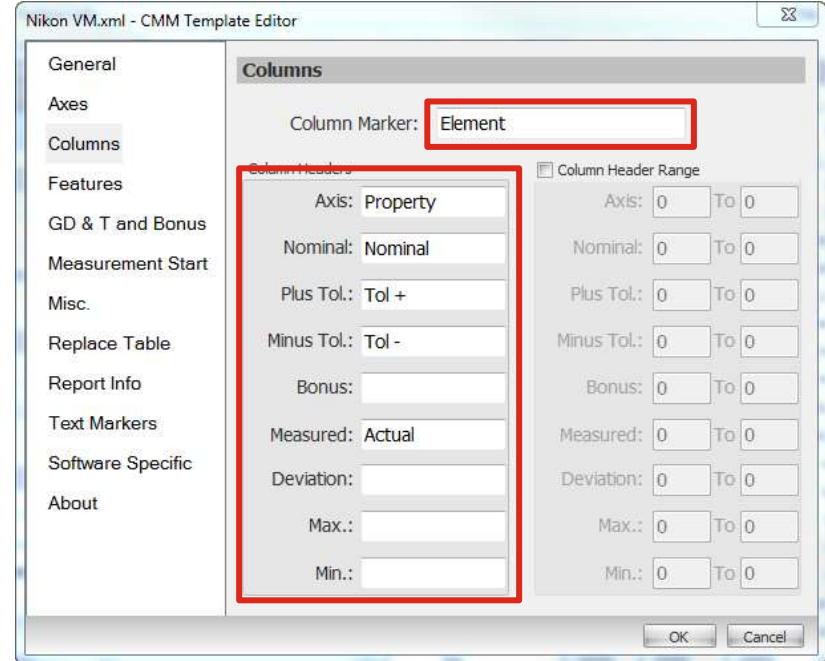
CMM Templates

Nikon VM

- We also need to indicate the columns



```
BAR-M-R0001.txt - Notepad
File Edit Format View Help
11,108,"Abstand(Punkt zu Punkt)" "" "" "L" 3.650, 0.200, -0.200, 3.881
11,114,"Abstand(Punkt zu Punkt)" "" "" "L" 3.650, 0.200, -0.200, 3.755
11,115,"Abstand(Punkt zu Punkt)" "" "" "L" 3.650, 0.200, -0.200, 3.799
11,53,"Statistics(N = 12)" "" "" "MAX" 20.000, 0.100, -0.100, 20.056
11,53,"Statistics(N = 12)" "" "" "MIN" 20.000, 0.100, -0.100, 18.346
11,57,"Statistics(N = 1)" "" "" "AVE" 12.500, 0.100, -0.100, 12.524
11,61,"Statistics(N = 1)" "" "" "AVE" 45.000, 0.200, -0.200, 44.957
11,101,"Statistics(N = 2)" "" "" "MAX" 74.500, 0.200, -0.200, 74.471
11,101,"Statistics(N = 2)" "" "" "MIN" 74.500, 0.200, -0.200, 74.433
11,84,"Statistics(N = 6)" "" "" "MAX" 84.000, 0.150, -0.150, 83.950
11,84,"Statistics(N = 6)" "" "" "MIN" 84.000, 0.150, -0.150, 83.937
11,86,"Statistics(N = 1)" "" "" "AVE" 8.000, 0.080, 0.000, 8.052
11,88,"Statistics(N = 1)" "" "" "AVE" 8.000, 0.080, 0.000, 8.055
```



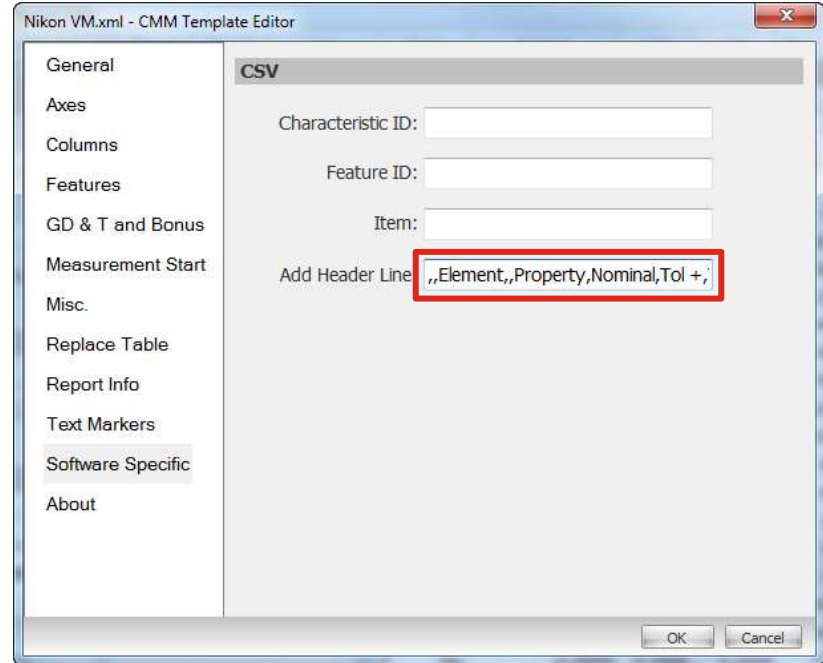
CMM Templates

Nikon VM

- Since there is no column header in the *.txt file we need to add it in **Software Specific** and be careful to respect the syntax of the document

11,108,"Abstand(Punkt zu Punkt)","", "L", 3.650,
0.200, -0.200, 3.881

„Element,,Property,Nominal,Tol +,Tol -,Actual



CMM Templates

Nikon VM

- To support multiple measurements, each set of measurements will have to start with the keyword “**START**” and this need to be indicated in the template...

