pc-dmis	PART NAME : PN440004-n-Trans-Rings-000-TB9XXX000-v4-IR		April 05, 2013	15:33
	REV NUMBER :	SER NUMBER :	STATS COUNT :	1

440004-n
FNAL 1.3GHZ TESLA
RF CAVITY
ASSEMBLY
measurement of Transition Rings
@ 000 rotational orientation

'Inspected by ' : Robert Riley
'Cavity Number' : TB9NR010
' ' : 1304051330

Datum Discs

#	MM	LOC1 - CIRC_DATUM_DISC_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Y	25.000	26.471	1.471	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.918	-0.082	0.050	0.050	0.032
RN	0.000	0.052	0.052	0.050	0.000	0.002

#	MM	LOC2 - CIRC_DATUM_DISC_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Y	-1032.384	-1037.148	-4.764	10.000	10.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.634	-0.366	0.050	0.050	0.316
RN	0.000	0.024	0.024	0.050	0.000	0.000

Datum Disc planes

#	MM	LOC3 - PLNC_DD_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	27.000	28.299	1.299	10.000	10.000	0.000
FL	0.000	0.035	0.035	0.100	0.000	0.000

#	MM	LOC4 - PLNC_DD_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1034.384	-1039.112	-4.728	10.000	10.000	0.000
FL	0.000	0.069	0.069	0.100	0.000	0.000

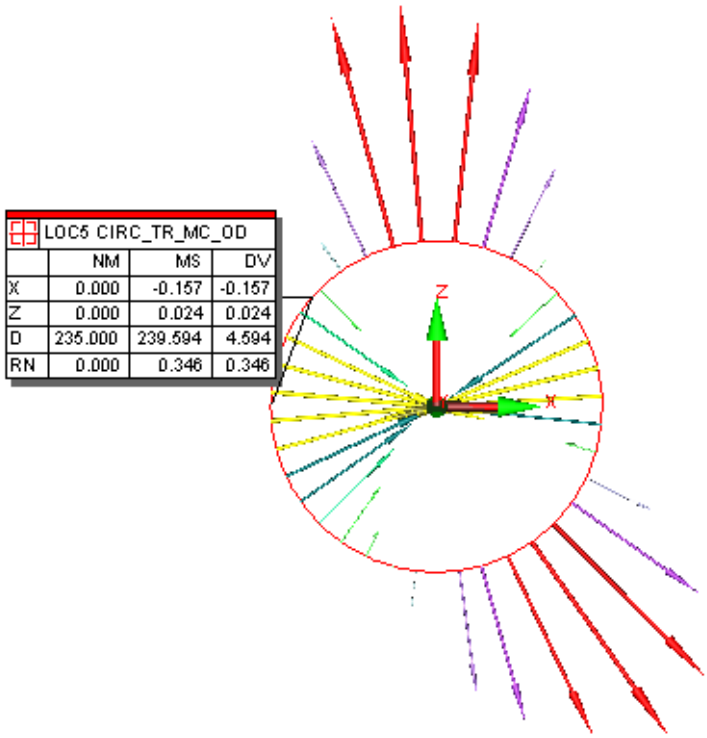
Distance between Datum Disc planes

↔	MM	DIST1 - PLNC_DD_FP TO PLNC_DD_MC (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1061.060	1067.411	6.351	0.200	0.200	6.151

Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D.

⌗	MM	LOC5 - CIRC_TR_MC_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.157	-0.157	0.250	0.250	0.000
Z	0.000	0.024	0.024	0.250	0.250	0.000
D	235.000	239.594	4.594	0.250	0.250	4.344
RN	0.000	0.346	0.346	0.250	0.000	0.096

○	MM	RND1 - CIRC_TR_MC_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.346	0.346	0.250	0.000	0.096

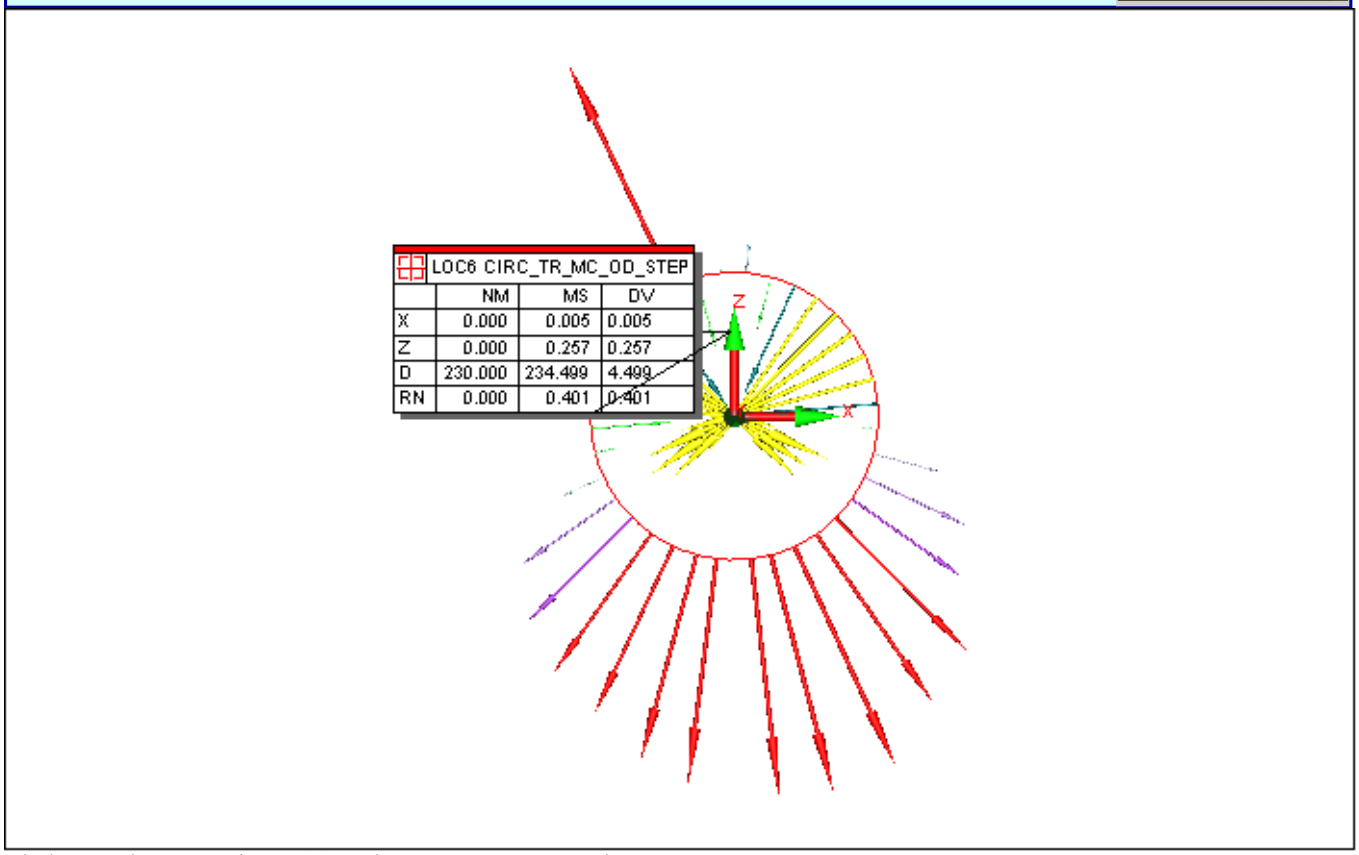


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D. x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step

⌗	MM	LOC6 - CIRC_TR_MC_OD_STEP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.005	0.005	0.250	0.250	0.000
Z	0.000	0.257	0.257	0.250	0.250	0.007
D	230.000	234.499	4.499	0.000	0.250	4.499
RN	0.000	0.401	0.401	0.250	0.000	0.151

○	MM	RND2 - CIRC_TR_MC_OD_STEP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.401	0.401	0.250	0.000	0.151

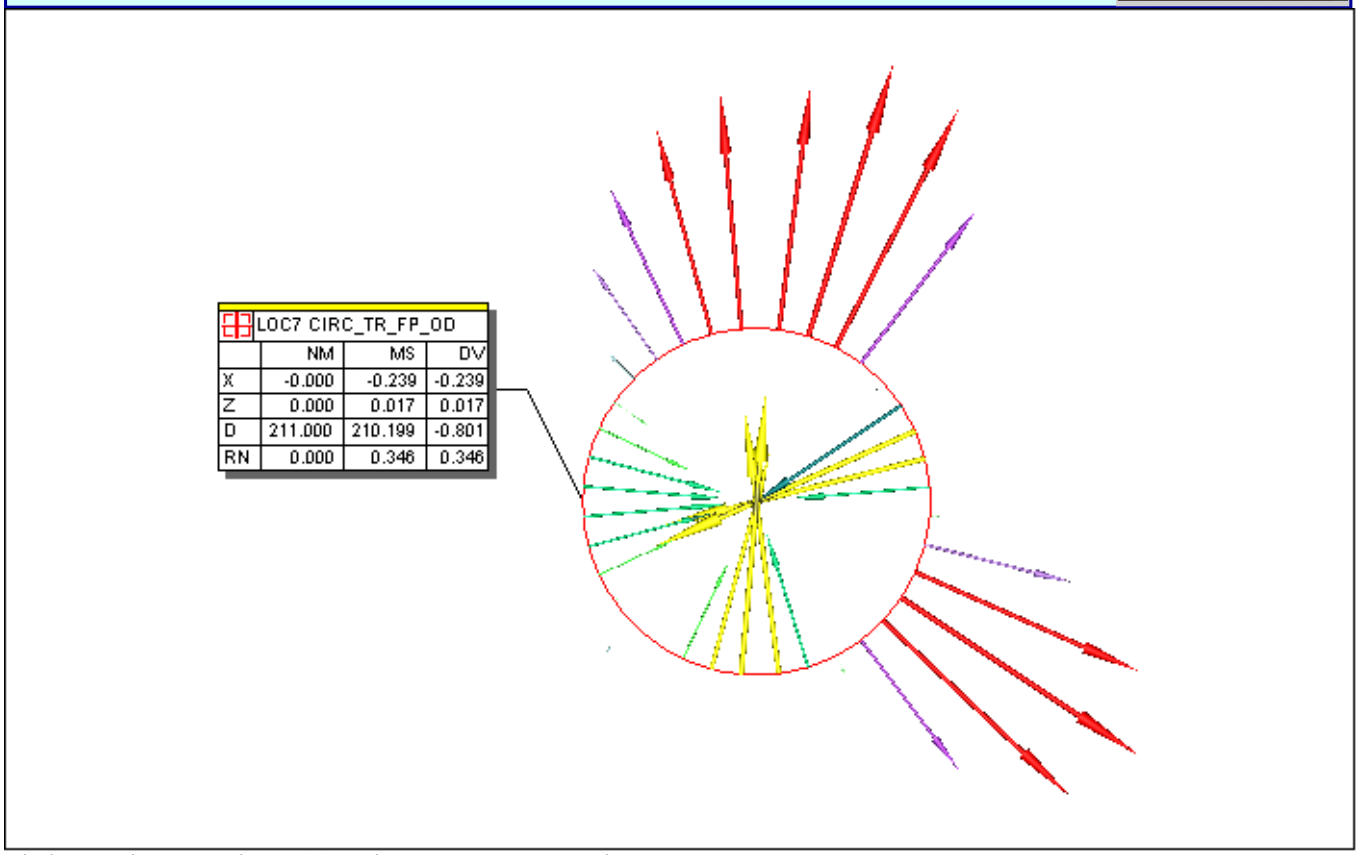


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D.

⌗	MM	LOC7 - CIRC_TR_FP_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.239	-0.239	0.250	0.250	0.000
Z	0.000	0.017	0.017	0.250	0.250	0.000
D	211.000	210.199	-0.801	0.250	0.250	0.551
RN	0.000	0.346	0.346	0.250	0.000	0.096

○	MM	RND3 - CIRC_TR_FP_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.346	0.346	0.250	0.000	0.096

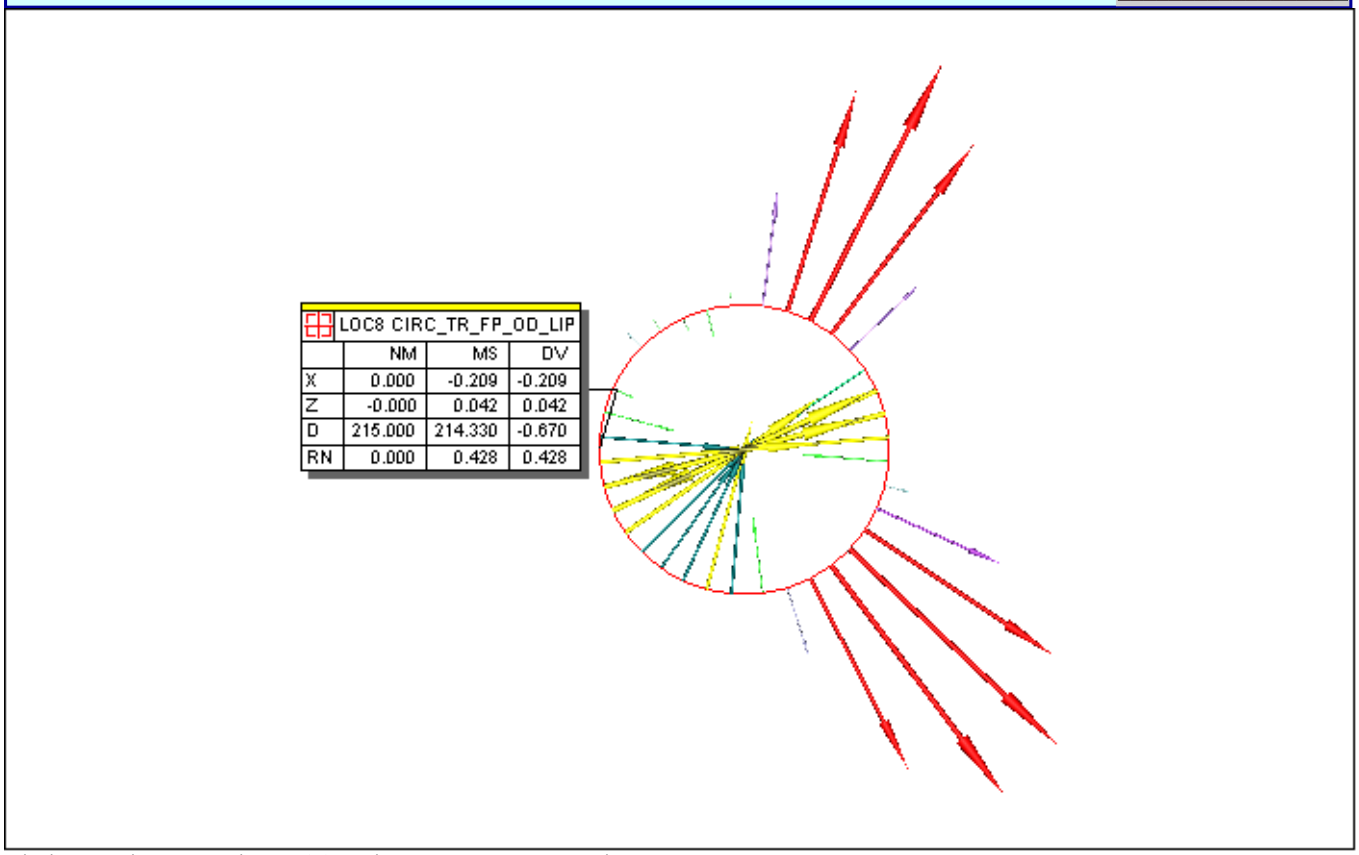


Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D. x1000

Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
215.0 O.D. lip

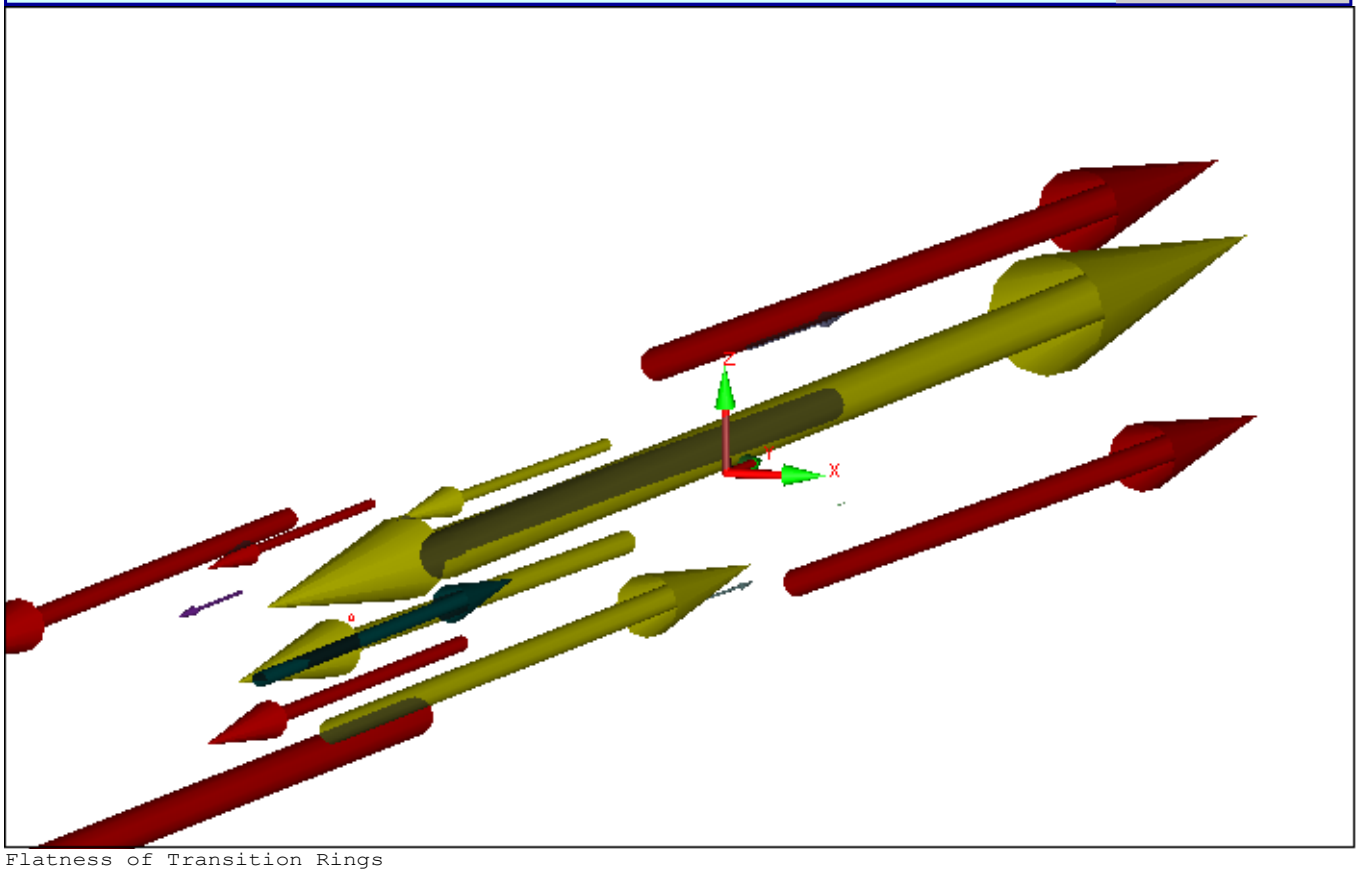
	MM	LOC8 - CIRC_TR_FP_OD_LIP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.209	-0.209	0.250	0.250	0.000
Z	0.000	0.042	0.042	0.250	0.250	0.000
D	215.000	214.330	-0.670	0.250	0.250	0.420
RN	0.000	0.428	0.428	0.250	0.000	0.178

	MM	RND4 - CIRC_TR_FP_OD_LIP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.428	0.428	0.250	0.000	0.178



Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
215.0 O.D. lip x1000

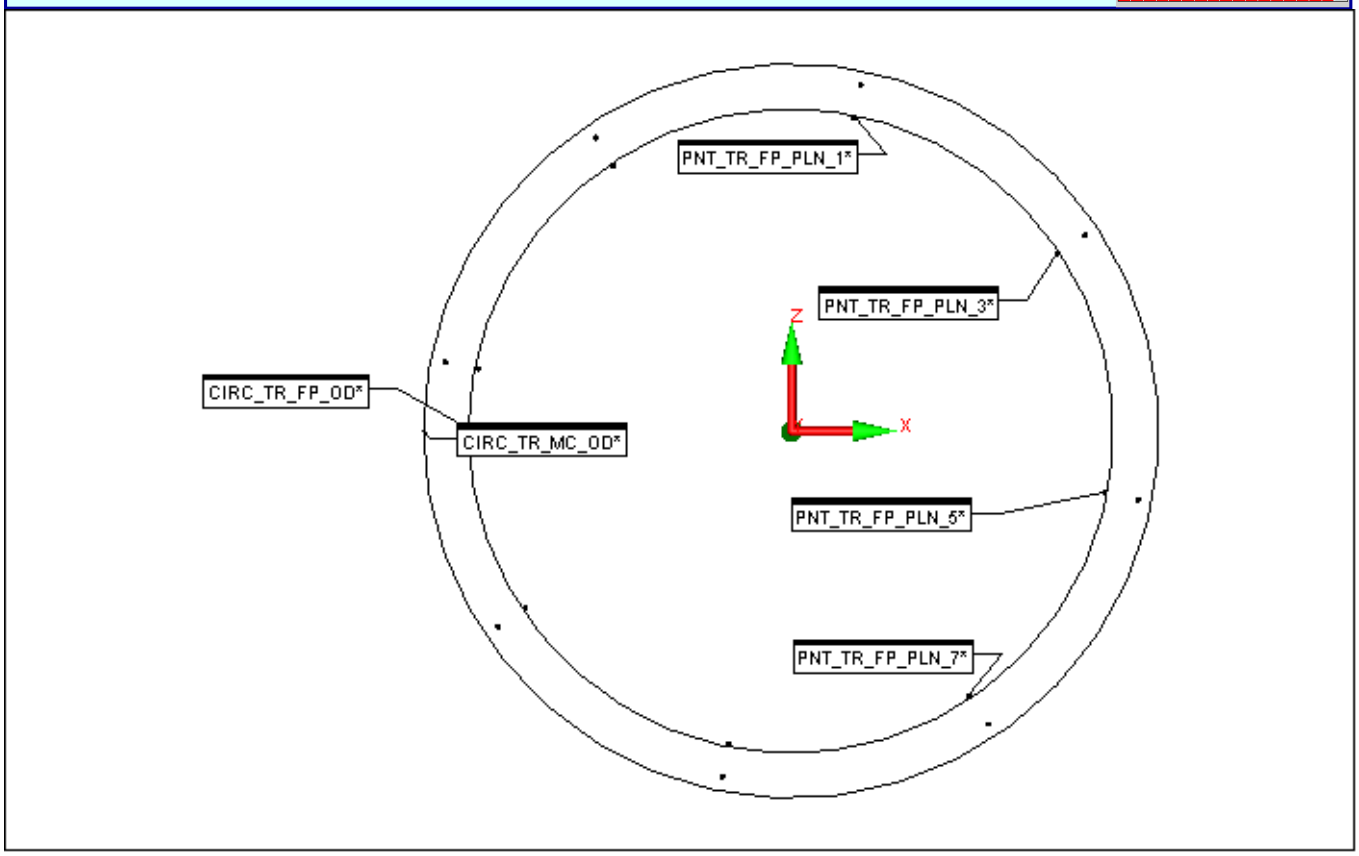
	MM	LOC9 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	0.000	0.000	0.000	0.000	0.000	0.000	
FL	0.000	0.609	0.609	0.200	0.000	0.409	
AX		I		J		K	
V		0.000		1.000		-0.007	
	MM	LOC10 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1013.636	-6.136	10.000	10.000	0.000	
FL	0.000	0.784	0.784	0.200	0.000	0.584	
AX		I		J		K	
V		0.002		-1.000		-0.003	
	MM	FLAT3 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.609	0.609	0.200	0.000	0.409	
	MM	FLAT4 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.784	0.784	0.200	0.000	0.584	



Flatness of Transition Rings
x5000

⊥	MM	PERP1 - PLNC_TR_MC TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	1.813	1.813	0.200	0	1.613

⊥	MM	PERP2 - PLNC_TR_FP TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	1.143	1.143	0.200	0	0.943



Transition Ring points Main Coupler end

#	MM	LOC11 - PNT_TR_MC_PLN_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.904	0.904	1.000	1.000	0.000
PR	115.000	115.021	0.021	1.000	1.000	0.000
PA	101.250	101.248	-0.002	1.000	1.000	0.000

#	MM	LOC12 - PNT_TR_MC_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.209	0.210	1.000	1.000	0.000
PR	115.000	114.998	-0.002	1.000	1.000	0.000
PA	146.250	146.244	-0.006	1.000	1.000	0.000

#	MM	LOC13 - PNT_TR_MC_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.129	-0.129	1.000	1.000	0.000
PR	115.000	114.976	-0.024	1.000	1.000	0.000
PA	-168.750	-168.750	0.000	1.000	1.000	0.000

⌗	MM	LOC14 - PNT_TR_MC_PLN_7				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.437	-0.437	1.000	1.000	0.000
PR	115.000	114.968	-0.032	1.000	1.000	0.000
PA	-123.750	-123.739	0.011	1.000	1.000	0.000

⌗	MM	LOC15 - PNT_TR_MC_PLN_9				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.823	-0.822	1.000	1.000	0.000
PR	115.000	114.978	-0.022	1.000	1.000	0.000
PA	-78.750	-78.728	0.022	1.000	1.000	0.000

⌗	MM	LOC16 - PNT_TR_MC_PLN_11				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.725	-0.725	1.000	1.000	0.000
PR	115.000	115.002	0.001	1.000	1.000	0.000
PA	-33.750	-33.724	0.026	1.000	1.000	0.000

⌗	MM	LOC17 - PNT_TR_MC_PLN_13				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.009	0.009	1.000	1.000	0.000
PR	115.000	115.025	0.025	1.000	1.000	0.000
PA	11.250	11.271	0.021	1.000	1.000	0.000

⌗	MM	LOC18 - PNT_TR_MC_PLN_15				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.991	0.991	1.000	1.000	0.000
PR	115.000	115.031	0.031	1.000	1.000	0.000
PA	56.250	56.258	0.008	1.000	1.000	0.000

Transition Ring points Field Probe end

⌗	MM	LOC19 - PNT_TR_FP_PLN_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1014.019	-6.519	1.000	1.000	5.519
PR	104.000	104.008	0.008	1.000	1.000	0.000
PA	101.250	101.254	0.004	1.000	1.000	0.000

⌗	MM	LOC20 - PNT_TR_FP_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1013.189	-5.689	1.000	1.000	4.689
PR	104.000	104.002	0.002	1.000	1.000	0.000
PA	146.250	146.253	0.003	1.000	1.000	0.000

⌗	MM	LOC21 - PNT_TR_FP_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1013.469	-5.969	1.000	1.000	4.969
PR	104.000	103.993	-0.007	1.000	1.000	0.000
PA	-168.750	-168.744	0.006	1.000	1.000	0.000

⌗	MM	LOC22 - PNT_TR_FP_PLN_7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1013.557	-6.057	1.000	1.000	5.057	
PR	104.000	103.990	-0.010	1.000	1.000	0.000	
PA	-123.750	-123.738	0.012	1.000	1.000	0.000	
⌗	MM	LOC23 - PNT_TR_FP_PLN_9					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1013.114	-5.614	1.000	1.000	4.614	
PR	104.000	103.999	-0.001	1.000	1.000	0.000	
PA	-78.750	-78.564	0.186	1.000	1.000	0.000	
⌗	MM	LOC24 - PNT_TR_FP_PLN_11					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1013.507	-6.007	1.000	1.000	5.007	
PR	104.000	104.226	0.226	1.000	1.000	0.000	
PA	-33.750	-33.614	0.136	1.000	1.000	0.000	
⌗	MM	LOC25 - PNT_TR_FP_PLN_13					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1013.978	-6.478	1.000	1.000	5.478	
PR	104.000	104.323	0.323	1.000	1.000	0.000	
PA	11.250	11.263	0.013	1.000	1.000	0.000	
⌗	MM	LOC26 - PNT_TR_FP_PLN_15					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1014.256	-6.756	1.000	1.000	5.756	
PR	104.000	104.231	0.231	1.000	1.000	0.000	
PA	56.250	56.139	-0.111	1.000	1.000	0.000	

Distances between matching points on Transition Rings

↔	MM	DIST_PA_11.25 - PNT_TR_MC_PLN_13 TO PNT_TR_FP_PLN_13 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1013.987	6.487	1.000	1.000	5.487	
↔	MM	DIST_PA_56.25 - PNT_TR_MC_PLN_15 TO PNT_TR_FP_PLN_15 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1015.247	7.747	1.000	1.000	6.747	
↔	MM	DIST_PA_101.25 - PNT_TR_MC_PLN_1 TO PNT_TR_FP_PLN_1 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1014.923	7.423	1.000	1.000	6.423	
↔	MM	DIST_PA_146.25 - PNT_TR_MC_PLN_3 TO PNT_TR_FP_PLN_3 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1013.399	5.899	1.000	1.000	4.899	
↔	MM	DIST_PA_-168.75 - PNT_TR_MC_PLN_5 TO PNT_TR_FP_PLN_5 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1013.339	5.839	1.000	1.000	4.839	

↔	MM	DIST_PA_-123.75 - PNT_TR_MC_PLN_7 TO PNT_TR_FP_PLN_7 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1013.120	5.620	1.000	1.000	4.620	

↔	MM	DIST_PA_-78.75 - PNT_TR_MC_PLN_9 TO PNT_TR_FP_PLN_9 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.291	4.791	1.000	1.000	3.791	

↔	MM	DIST_PA_-33.75 - PNT_TR_MC_PLN_11 TO PNT_TR_FP_PLN_11 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.782	5.282	1.000	1.000	4.282	

↔	MM	DIST_BETWEEN_PLANES - PLNC_TR_MC TO PLNC_TR_FP (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1013.636	6.136	1.000	1.000	5.136	

LOCATIONS OF CONSTRUCTED CIRCLES
ON 18 HALF CELLS

⌗	MM	LOC_CC3 - CIRC_CAV_1_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.161	-0.161	0.200	0.200	0.000	
Y	0.000	-974.846	-974.846	2000.000	2000.000	0.000	
Z	0.000	0.202	0.202	0.200	0.200	0.002	
D	210.300	210.935	0.635	0.200	0.200	0.435	
RN	0.000	0.225	0.225	0.200	0.000	0.025	

⌗	MM	LOC_CC4 - CIRC_CAV_1_2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.312	-0.312	0.200	0.200	0.112	
Y	0.000	-964.330	-964.330	2000.000	2000.000	0.000	
Z	0.000	0.250	0.250	0.200	0.200	0.050	
D	210.300	211.346	1.046	0.200	0.200	0.846	
RN	0.000	0.154	0.154	0.200	0.000	0.000	

⌗	MM	LOC_CC5 - CIRC_CAV_2_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.613	-0.613	0.200	0.200	0.413	
Y	0.000	-859.079	-859.079	2000.000	2000.000	0.000	
Z	0.000	0.496	0.496	0.200	0.200	0.296	
D	210.300	211.283	0.983	0.200	0.200	0.783	
RN	0.000	0.313	0.313	0.200	0.000	0.113	

⊞	MM	LOC_CC6 - CIRC_CAV_2_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.602	-0.602	0.200	0.200	0.402
Y	0.000	-848.811	-848.811	2000.000	2000.000	0.000
Z	0.000	0.124	0.124	0.200	0.200	0.000
D	210.300	211.234	0.934	0.200	0.200	0.734
RN	0.000	0.335	0.335	0.200	0.000	0.135

⊞	MM	LOC_CC7 - CIRC_CAV_3_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.776	-0.776	0.200	0.200	0.576
Y	0.000	-742.680	-742.680	2000.000	2000.000	0.000
Z	0.000	0.492	0.492	0.200	0.200	0.292
D	210.300	211.266	0.966	0.200	0.200	0.766
RN	0.000	0.342	0.342	0.200	0.000	0.142

⊞	MM	LOC_CC8 - CIRC_CAV_3_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.639	-0.639	0.200	0.200	0.439
Y	0.000	-732.628	-732.628	2000.000	2000.000	0.000
Z	0.000	0.402	0.402	0.200	0.200	0.202
D	210.300	211.247	0.947	0.200	0.200	0.747
RN	0.000	0.288	0.288	0.200	0.000	0.088

⊞	MM	LOC_CC9 - CIRC_CAV_4_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.752	-0.752	0.200	0.200	0.552
Y	0.000	-625.995	-625.995	2000.000	2000.000	0.000
Z	0.000	0.217	0.217	0.200	0.200	0.017
D	210.300	211.327	1.027	0.200	0.200	0.827
RN	0.000	0.376	0.376	0.200	0.000	0.176

⊞	MM	LOC_CC10 - CIRC_CAV_4_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.703	-0.703	0.200	0.200	0.503
Y	0.000	-616.285	-616.285	2000.000	2000.000	0.000
Z	0.000	-0.022	-0.022	0.200	0.200	0.000
D	210.300	211.232	0.932	0.200	0.200	0.732
RN	0.000	0.279	0.279	0.200	0.000	0.079

⊞	MM	LOC_CC11 - CIRC_CAV_5_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.527	-0.527	0.200	0.200	0.327
Y	0.000	-510.347	-510.347	2000.000	2000.000	0.000
Z	0.000	0.100	0.100	0.200	0.200	0.000
D	210.300	211.252	0.952	0.200	0.200	0.752
RN	0.000	0.235	0.235	0.200	0.000	0.035

⊞	MM	LOC_CC12 - CIRC_CAV_5_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.425	-0.425	0.200	0.200	0.225
Y	0.000	-500.113	-500.113	2000.000	2000.000	0.000
Z	0.000	0.048	0.048	0.200	0.200	0.000
D	210.300	211.203	0.903	0.200	0.200	0.703
RN	0.000	0.271	0.271	0.200	0.000	0.071

⊞	MM	LOC_CC13 - CIRC_CAV_6_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.416	-0.416	0.200	0.200	0.216
Y	0.000	-394.279	-394.279	2000.000	2000.000	0.000
Z	0.000	0.084	0.084	0.200	0.200	0.000
D	210.300	211.231	0.931	0.200	0.200	0.731
RN	0.000	0.312	0.312	0.200	0.000	0.112

⊞	MM	LOC_CC14 - CIRC_CAV_6_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.241	-0.241	0.200	0.200	0.041
Y	0.000	-383.623	-383.623	2000.000	2000.000	0.000
Z	0.000	0.181	0.181	0.200	0.200	0.000
D	210.300	211.163	0.863	0.200	0.200	0.663
RN	0.000	0.223	0.223	0.200	0.000	0.023

⊞	MM	LOC_CC15 - CIRC_CAV_7_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.311	-0.311	0.200	0.200	0.111
Y	0.000	-277.078	-277.078	2000.000	2000.000	0.000
Z	0.000	0.072	0.072	0.200	0.200	0.000
D	210.300	211.258	0.958	0.200	0.200	0.758
RN	0.000	0.180	0.180	0.200	0.000	0.000

⊞	MM	LOC_CC16 - CIRC_CAV_7_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.273	-0.273	0.200	0.200	0.073
Y	0.000	-267.729	-267.729	2000.000	2000.000	0.000
Z	0.000	0.059	0.059	0.200	0.200	0.000
D	210.300	211.266	0.966	0.200	0.200	0.766
RN	0.000	0.381	0.381	0.200	0.000	0.181

⊞	MM	LOC_CC17 - CIRC_CAV_8_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.182	-0.182	0.200	0.200	0.000
Y	0.000	-161.282	-161.282	2000.000	2000.000	0.000
Z	0.000	0.320	0.320	0.200	0.200	0.120
D	210.300	211.229	0.929	0.200	0.200	0.729
RN	0.000	0.341	0.341	0.200	0.000	0.141

⌗	MM	LOC_CC18 - CIRC_CAV_8_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.129	-0.129	0.200	0.200	0.000
Y	0.000	-150.503	-150.503	2000.000	2000.000	0.000
Z	0.000	0.421	0.421	0.200	0.200	0.221
D	210.300	211.224	0.924	0.200	0.200	0.724
RN	0.000	0.316	0.316	0.200	0.000	0.116

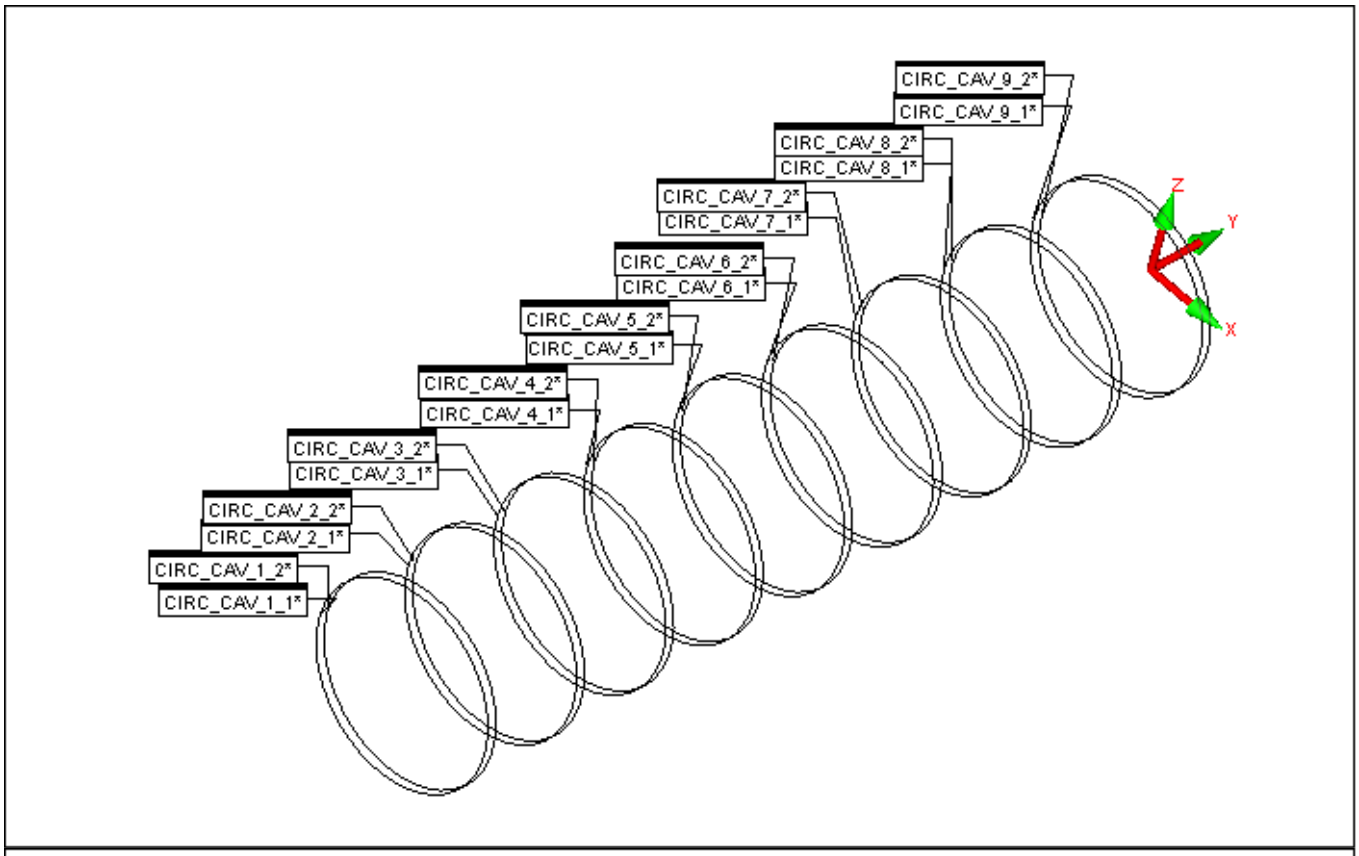
⌗	MM	LOC_CC19 - CIRC_CAV_9_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.032	-0.032	0.200	0.200	0.000
Y	0.000	-44.776	-44.776	2000.000	2000.000	0.000
Z	0.000	0.214	0.214	0.200	0.200	0.014
D	210.300	211.262	0.962	0.200	0.200	0.762
RN	0.000	0.208	0.208	0.200	0.000	0.008

⌗	MM	LOC_CC20 - CIRC_CAV_9_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.098	0.098	0.200	0.200	0.000
Y	0.000	-34.225	-34.225	2000.000	2000.000	0.000
Z	0.000	0.334	0.334	0.200	0.200	0.134
D	210.300	210.817	0.517	0.200	0.200	0.317
RN	0.000	0.191	0.191	0.200	0.000	0.000

Location of End Flanges

⌗	MM	LOC_23 - CIR_END_FLANGE_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.362	-0.362	0.200	0.200	0.162
Y	0.000	116.264	116.264	2000.000	2000.000	0.000
Z	0.000	-0.073	-0.073	0.200	0.200	0.000
D	140.000	139.908	-0.092	0.300	0.300	0.000
RN	0.000	0.008	0.008	0.200	0.000	0.000

⌗	MM	LOC_24 - CIR_END_FLANGE_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.250	0.250	0.200	0.200	0.050
Y	-1153.884	-1125.650	28.235	2000.000	2000.000	0.000
Z	0.000	-0.308	-0.308	0.200	0.200	0.108
D	140.000	139.923	-0.077	0.300	0.300	0.000
RN	0.000	0.011	0.011	0.200	0.000	0.000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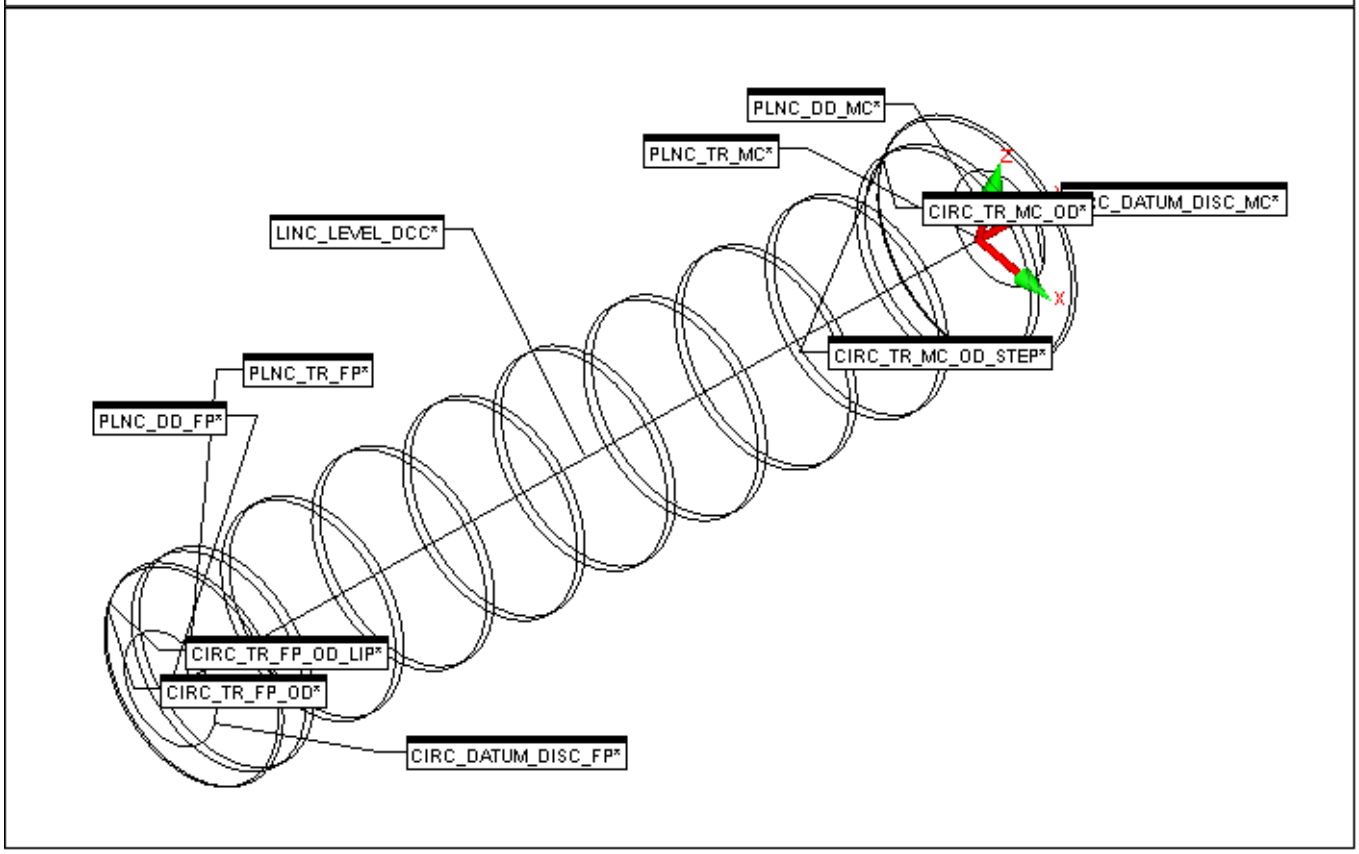
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