pc-dmis	PART NAME : PN440004-n-Trans-Rings-000-TB9XXX000-v4-IR		February 25, 2013	16:23
	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' : TB9NR011
' ' : 1302251325

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	26.490	1.490	10.000	10.000	0.000	
Z	0.000	0.000	0.000	0.000	0.000	0.000	
D	111.000	110.810	-0.190	0.050	0.050	0.140	
RN	0.000	0.041	0.041	0.050	0.000	0.000	

#	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	-1036.595	-4.211	10.000	10.000	0.000	
Z	0.000	0.000	0.000	0.000	0.000	0.000	
D	111.000	110.872	-0.128	0.050	0.050	0.078	
RN	0.000	0.030	0.030	0.050	0.000	0.000	

Datum Disc planes

#	MM	LOC3 - PLNC_DD_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	27.000	28.488	1.488	10.000	10.000	0.000	
FL	0.000	0.028	0.028	0.100	0.000	0.000	

#	MM	LOC4 - PLNC_DD_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1034.384	-1038.496	-4.112	10.000	10.000	0.000	
FL	0.000	0.038	0.038	0.100	0.000	0.000	

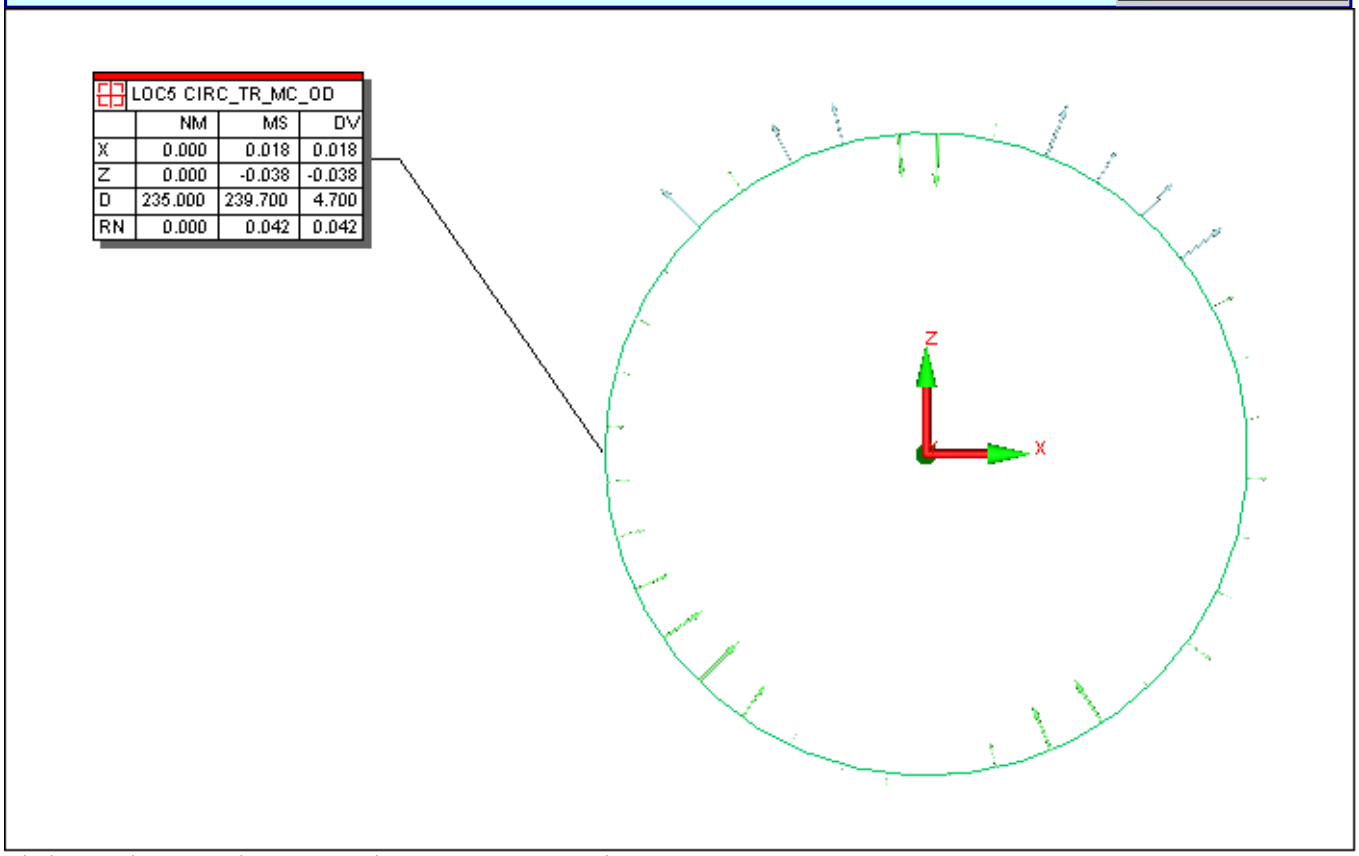
Distance between Datum Disc planes

↔	MM	DIST1 - PLNC_DD_FP TO PLNC_DD_MC (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1061.060	1066.984	5.924	0.200	0.200	5.724

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	0.018	0.018	0.250	0.250	0.000
Z	0.000	-0.038	-0.038	0.250	0.250	0.000
D	235.000	239.700	4.700	0.250	0.250	4.450
RN	0.000	0.042	0.042	0.250	0.000	0.000

○	MM	RND1 - CIRC_TR_MC_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.042	0.042	0.250	0.000	0.000

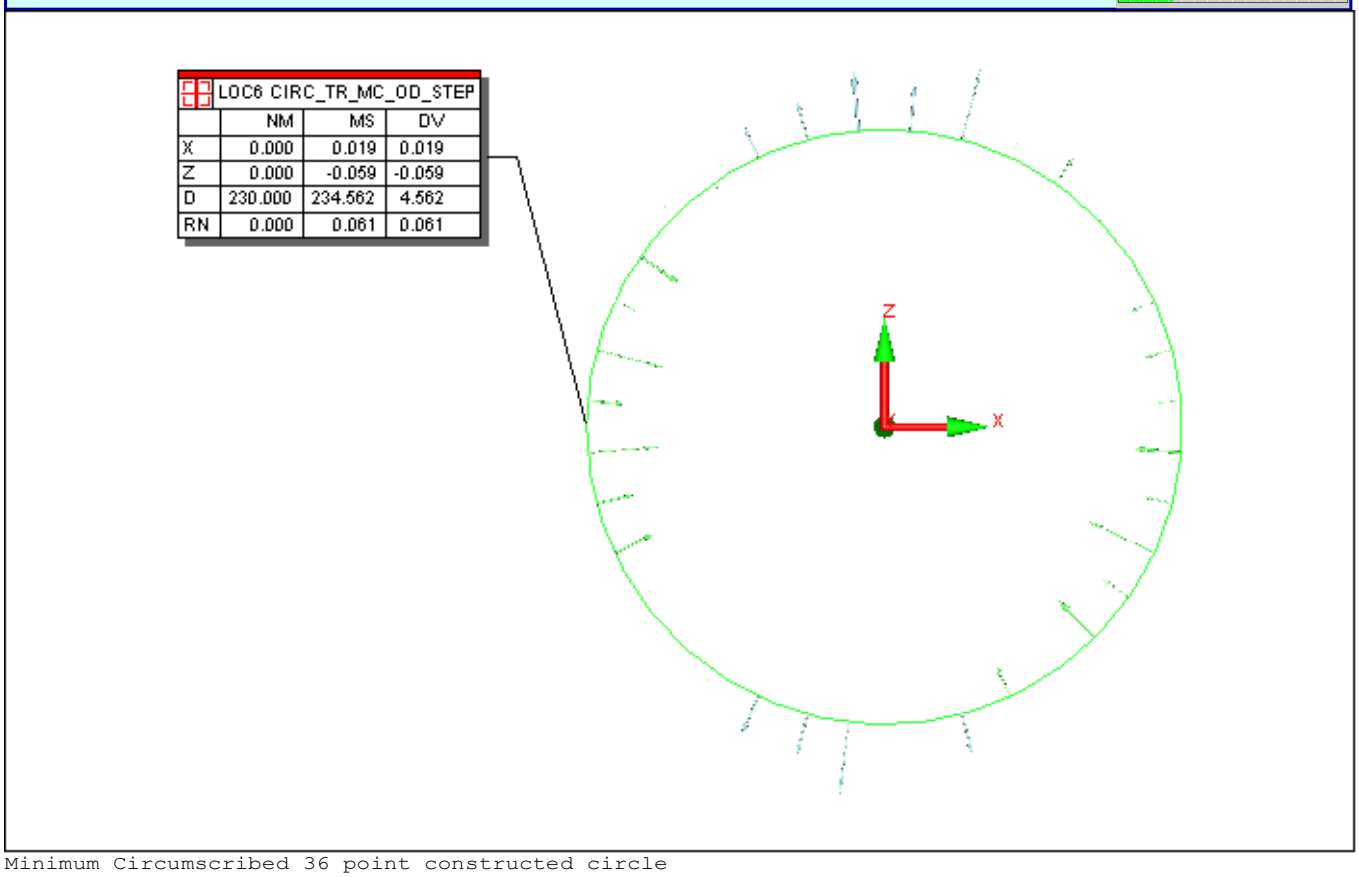


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
235.0 O.D. x1000

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	0.019	0.019	0.250	0.250	0.000
Z	0.000	-0.059	-0.059	0.250	0.250	0.000
D	230.000	234.562	4.562	0.000	0.250	4.562
RN	0.000	0.061	0.061	0.250	0.000	0.000

○	MM	RND2 - CIRC_TR_MC_OD_STEP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.061	0.061	0.250	0.000	0.000

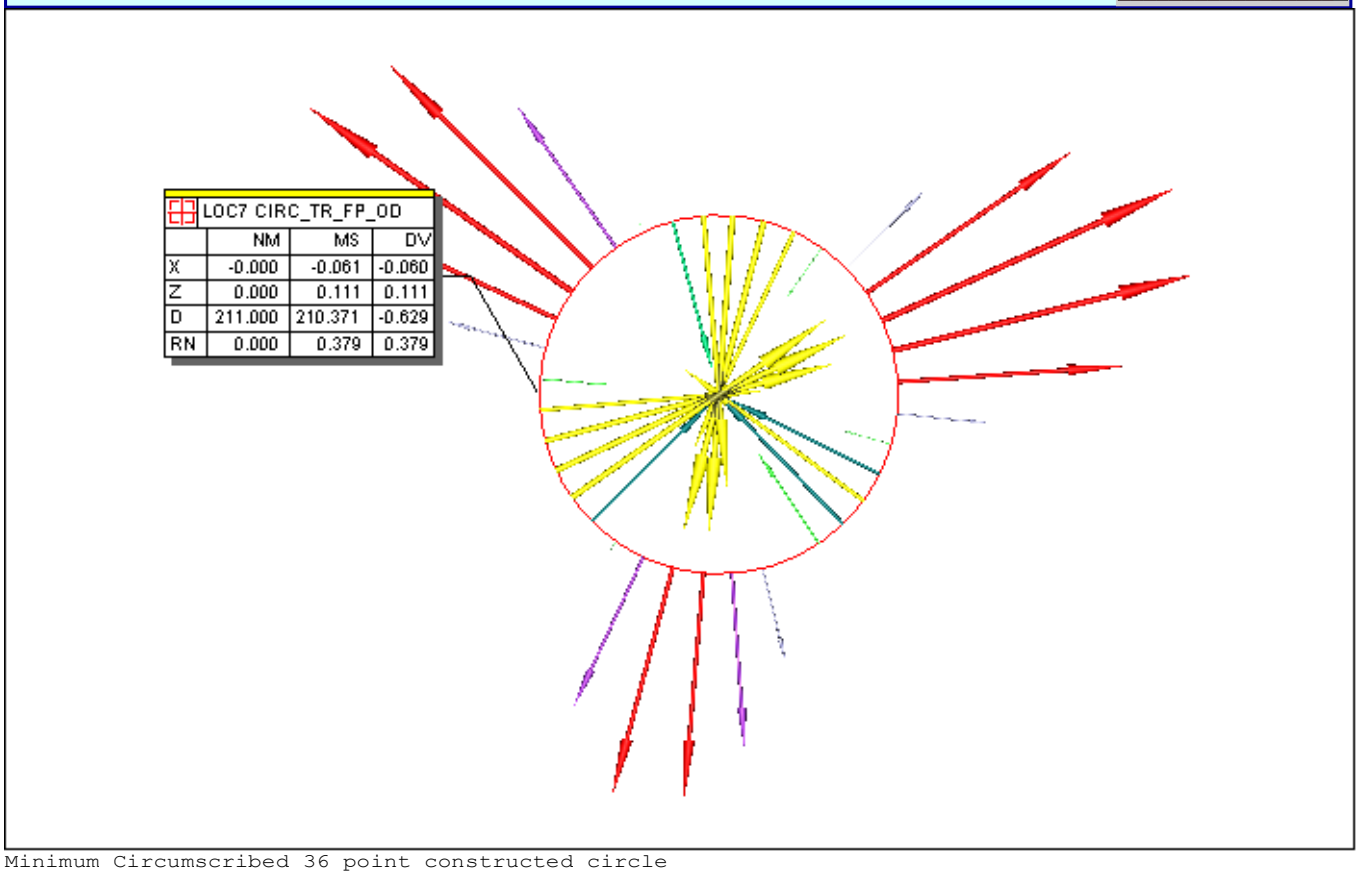


Minimum Circumscribed 36 point constructed circle
Transition Ring Main Coupler end
233.00 O.D. step x1000

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	-0.061	-0.060	0.250	0.250	0.000
Z	0.000	0.111	0.111	0.250	0.250	0.000
D	211.000	210.371	-0.629	0.250	0.250	0.379
RN	0.000	0.379	0.379	0.250	0.000	0.129

	MM	RND3 - CIRC_TR_FP_OD				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.379	0.379	0.250	0.000	0.129

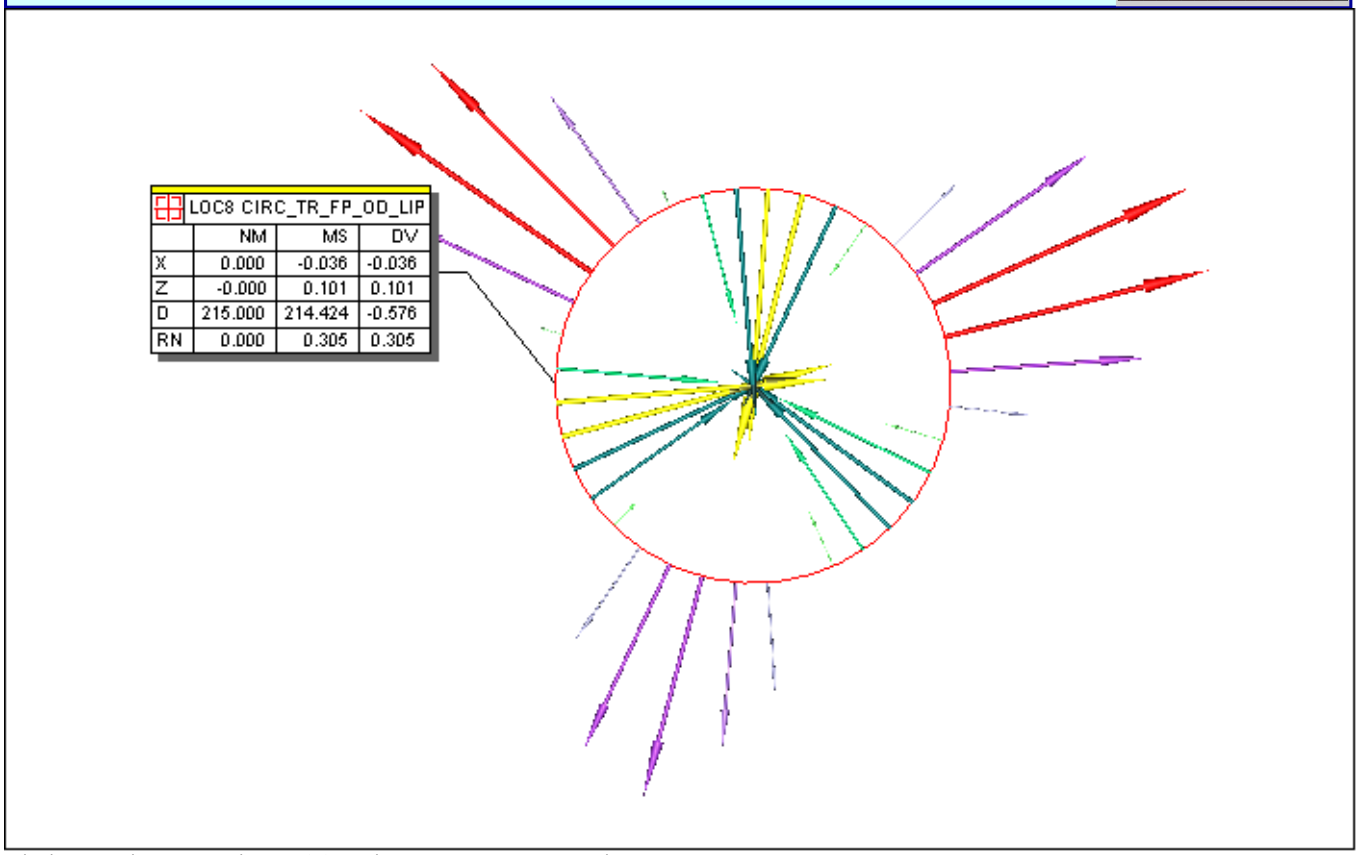


Minimum Circumscribed 36 point constructed circle
Transition Ring Field Probe end
211.0 O.D. x1000

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

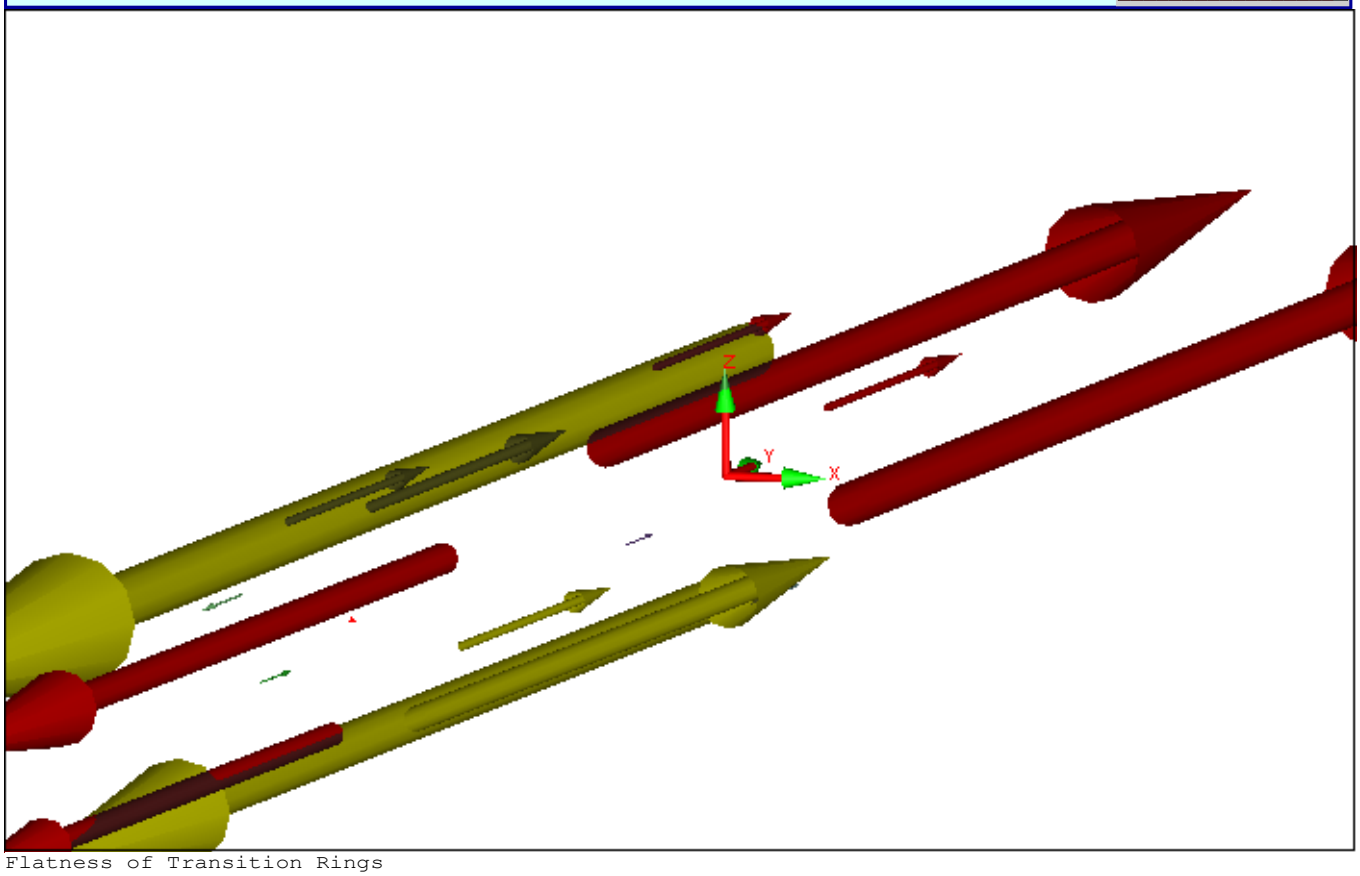
	MM	LOC8 - CIRC_TR_FP_OD_LIP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.036	-0.036	0.250	0.250	0.000
Z	0.000	0.101	0.101	0.250	0.250	0.000
D	215.000	214.424	-0.576	0.250	0.250	0.326
RN	0.000	0.305	0.305	0.250	0.000	0.055

	MM	RND4 - CIRC_TR_FP_OD_LIP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.305	0.305	0.250	0.000	0.055



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

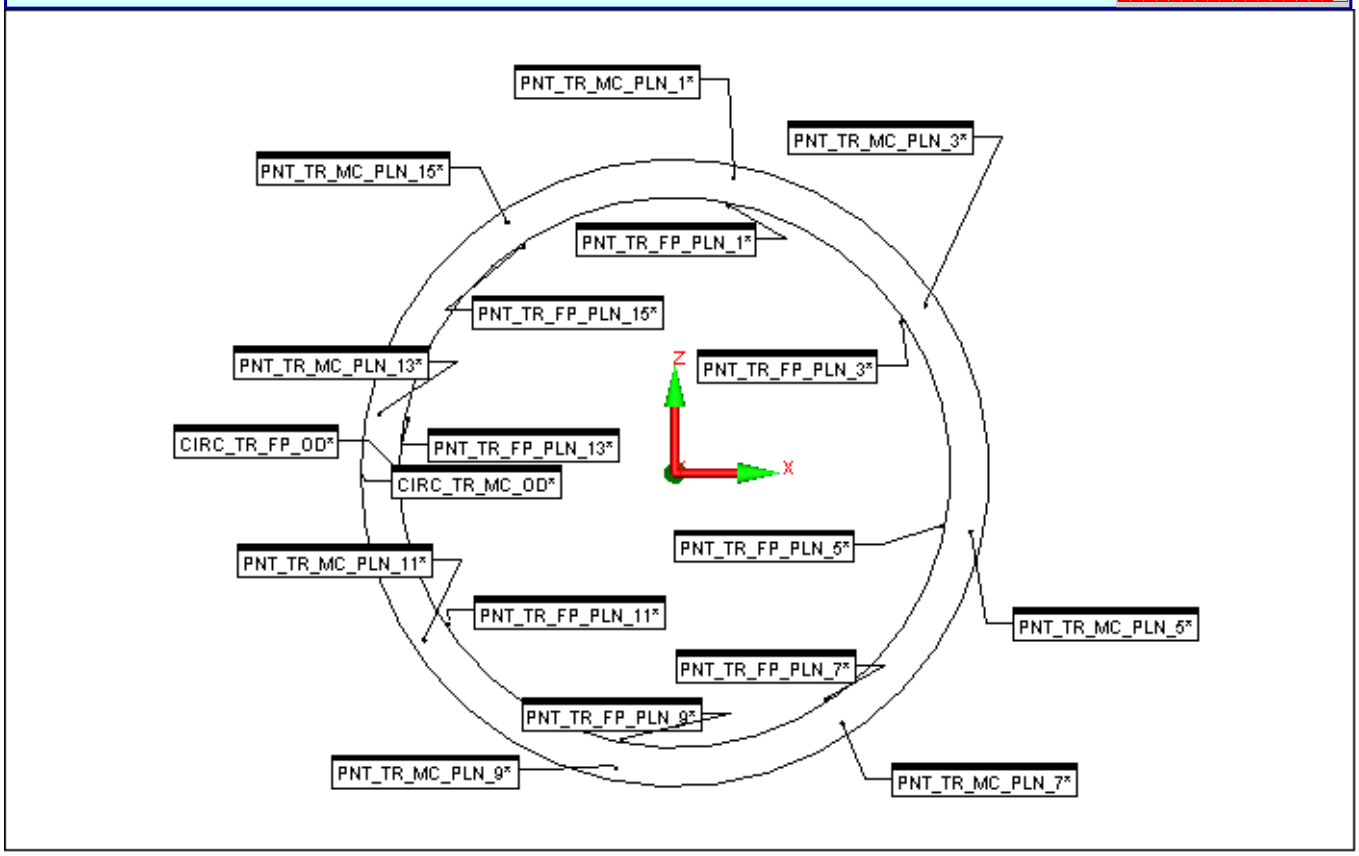
	MM	LOC9 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	0.000	0.000	0.000	0.000	0.000	0.000	
FL	0.000	0.880	0.880	0.200	0.000	0.680	
AX		I		J		K	
V		-0.004		1.000		0.003	
	MM	LOC10 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.286	-4.786	10.000	10.000	0.000	
FL	0.000	0.504	0.504	0.200	0.000	0.304	
AX		I		J		K	
V		0.001		-1.000		-0.002	
	MM	FLAT3 - PLNC_TR_MC					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.880	0.880	0.200	0.000	0.680	
	MM	FLAT4 - PLNC_TR_FP					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.000	0.504	0.504	0.200	0.000	0.304	



Flatness of Transition Rings
x5000

⊥	MM	PERP1 - PLNC_TR_MC TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	1.639	1.639	0.200	0	1.439

⊥	MM	PERP2 - PLNC_TR_FP TO LINC_LEVEL_DCC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0	0.686	0.686	0.200	0	0.486



Transition Ring points Main Coupler end

#	MM	LOC11 - PNT_TR_MC_PLN_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.777	-0.777	1.000	1.000	0.000
PR	115.000	114.994	-0.006	1.000	1.000	0.000
PA	101.250	101.244	-0.006	1.000	1.000	0.000

#	MM	LOC12 - PNT_TR_MC_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.212	0.212	1.000	1.000	0.000
PR	115.000	114.989	-0.011	1.000	1.000	0.000
PA	146.250	146.248	-0.002	1.000	1.000	0.000

#	MM	LOC13 - PNT_TR_MC_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.862	0.862	1.000	1.000	0.000
PR	115.000	114.999	-0.001	1.000	1.000	0.000
PA	-168.750	-168.746	0.004	1.000	1.000	0.000

⌗	MM	LOC14 - PNT_TR_MC_PLN_7				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	0.511	0.512	1.000	1.000	0.000
PR	115.000	115.011	0.011	1.000	1.000	0.000
PA	-123.750	-123.747	0.003	1.000	1.000	0.000

⌗	MM	LOC15 - PNT_TR_MC_PLN_9				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.101	-0.100	1.000	1.000	0.000
PR	115.000	115.008	0.008	1.000	1.000	0.000
PA	-78.750	-78.753	-0.003	1.000	1.000	0.000

⌗	MM	LOC16 - PNT_TR_MC_PLN_11				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.122	-0.122	1.000	1.000	0.000
PR	115.000	115.007	0.007	1.000	1.000	0.000
PA	-33.750	-33.755	-0.005	1.000	1.000	0.000

⌗	MM	LOC17 - PNT_TR_MC_PLN_13				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.123	-0.123	1.000	1.000	0.000
PR	115.000	115.003	0.003	1.000	1.000	0.000
PA	11.250	11.239	-0.011	1.000	1.000	0.000

⌗	MM	LOC18 - PNT_TR_MC_PLN_15				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	0.000	-0.462	-0.462	1.000	1.000	0.000
PR	115.000	115.000	0.000	1.000	1.000	0.000
PA	56.250	56.242	-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	-1012.308	-4.808	1.000	1.000	3.808
PR	104.000	104.025	0.025	1.000	1.000	0.000
PA	101.250	101.240	-0.010	1.000	1.000	0.000

⌗	MM	LOC20 - PNT_TR_FP_PLN_3				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1012.524	-5.024	1.000	1.000	4.024
PR	104.000	104.012	0.012	1.000	1.000	0.000
PA	146.250	146.233	-0.017	1.000	1.000	0.000

⌗	MM	LOC21 - PNT_TR_FP_PLN_5				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	-1007.500	-1012.020	-4.520	1.000	1.000	3.520
PR	104.000	103.994	-0.006	1.000	1.000	0.000
PA	-168.750	-168.767	-0.017	1.000	1.000	0.000

⌗	MM	LOC22 - PNT_TR_FP_PLN_7					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1011.838	-4.338	1.000	1.000	3.338	
PR	104.000	103.980	-0.021	1.000	1.000	0.000	
PA	-123.750	-123.759	-0.009	1.000	1.000	0.000	
⌗	MM	LOC23 - PNT_TR_FP_PLN_9					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.366	-4.866	1.000	1.000	3.866	
PR	104.000	103.867	-0.133	1.000	1.000	0.000	
PA	-78.750	-78.794	-0.044	1.000	1.000	0.000	
⌗	MM	LOC24 - PNT_TR_FP_PLN_11					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.308	-4.808	1.000	1.000	3.808	
PR	104.000	103.859	-0.141	1.000	1.000	0.000	
PA	-33.750	-33.731	0.019	1.000	1.000	0.000	
⌗	MM	LOC25 - PNT_TR_FP_PLN_13					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.492	-4.992	1.000	1.000	3.992	
PR	104.000	103.930	-0.069	1.000	1.000	0.000	
PA	11.250	11.318	0.068	1.000	1.000	0.000	
⌗	MM	LOC26 - PNT_TR_FP_PLN_15					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	-1007.500	-1012.431	-4.931	1.000	1.000	3.931	
PR	104.000	104.043	0.043	1.000	1.000	0.000	
PA	56.250	56.324	0.074	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	1012.369	4.869	1.000	1.000	3.869	
↔	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	1011.968	4.468	1.000	1.000	3.468	
↔	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	1011.531	4.031	1.000	1.000	3.031	
↔	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	1012.736	5.236	1.000	1.000	4.236	
↔	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	1012.882	5.382	1.000	1.000	4.382	

↔	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	1012.349	4.849	1.000	1.000	3.849	

↔	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	1012.265	4.765	1.000	1.000	3.765	

↔	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	1012.185	4.685	1.000	1.000	3.685	

↔	MM	DIST_BETWEEN_PLANES - PLNC_TR_MC TO PLNC_TR_FP (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1007.500	1012.286	4.786	1.000	1.000	3.786	

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	-0.144	-0.144	0.200	0.200	0.000	
Y	0.000	-974.887	-974.887	2000.000	2000.000	0.000	
Z	0.000	0.035	0.035	0.200	0.200	0.000	
D	210.300	210.907	0.607	0.200	0.200	0.407	
RN	0.000	0.458	0.458	0.200	0.000	0.258	

⌖	MM	LOC_CC4 - CIRC_CAV_1_2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.027	0.027	0.200	0.200	0.000	
Y	0.000	-965.299	-965.299	2000.000	2000.000	0.000	
Z	0.000	0.049	0.049	0.200	0.200	0.000	
D	210.300	211.263	0.963	0.200	0.200	0.763	
RN	0.000	0.229	0.229	0.200	0.000	0.029	

⌖	MM	LOC_CC5 - CIRC_CAV_2_1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.050	0.050	0.200	0.200	0.000	
Y	0.000	-858.529	-858.529	2000.000	2000.000	0.000	
Z	0.000	0.259	0.259	0.200	0.200	0.059	
D	210.300	211.219	0.919	0.200	0.200	0.719	
RN	0.000	0.332	0.332	0.200	0.000	0.132	

⌗	MM	LOC_CC6 - CIRC_CAV_2_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.428	0.428	0.200	0.200	0.228
Y	0.000	-848.694	-848.694	2000.000	2000.000	0.000
Z	0.000	0.258	0.258	0.200	0.200	0.058
D	210.300	210.922	0.622	0.200	0.200	0.422
RN	0.000	0.223	0.223	0.200	0.000	0.023

⌗	MM	LOC_CC7 - CIRC_CAV_3_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.524	0.524	0.200	0.200	0.324
Y	0.000	-743.350	-743.350	2000.000	2000.000	0.000
Z	0.000	0.279	0.279	0.200	0.200	0.079
D	210.300	210.863	0.563	0.200	0.200	0.363
RN	0.000	0.285	0.285	0.200	0.000	0.085

⌗	MM	LOC_CC8 - CIRC_CAV_3_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.736	0.736	0.200	0.200	0.536
Y	0.000	-732.675	-732.675	2000.000	2000.000	0.000
Z	0.000	0.313	0.313	0.200	0.200	0.113
D	210.300	211.278	0.978	0.200	0.200	0.778
RN	0.000	0.340	0.340	0.200	0.000	0.140

⌗	MM	LOC_CC9 - CIRC_CAV_4_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.501	0.501	0.200	0.200	0.301
Y	0.000	-626.538	-626.538	2000.000	2000.000	0.000
Z	0.000	0.275	0.275	0.200	0.200	0.075
D	210.300	211.197	0.897	0.200	0.200	0.697
RN	0.000	0.262	0.262	0.200	0.000	0.062

⌗	MM	LOC_CC10 - CIRC_CAV_4_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.533	0.533	0.200	0.200	0.333
Y	0.000	-616.277	-616.277	2000.000	2000.000	0.000
Z	0.000	0.135	0.135	0.200	0.200	0.000
D	210.300	211.296	0.996	0.200	0.200	0.796
RN	0.000	0.414	0.414	0.200	0.000	0.214

⌗	MM	LOC_CC11 - CIRC_CAV_5_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.369	0.369	0.200	0.200	0.169
Y	0.000	-509.748	-509.748	2000.000	2000.000	0.000
Z	0.000	0.322	0.322	0.200	0.200	0.122
D	210.300	211.252	0.952	0.200	0.200	0.752
RN	0.000	0.199	0.199	0.200	0.000	0.000

⊞	MM	LOC_CC12 - CIRC_CAV_5_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.459	0.459	0.200	0.200	0.259
Y	0.000	-500.386	-500.386	2000.000	2000.000	0.000
Z	0.000	0.339	0.339	0.200	0.200	0.139
D	210.300	211.201	0.901	0.200	0.200	0.701
RN	0.000	0.284	0.284	0.200	0.000	0.084

⊞	MM	LOC_CC13 - CIRC_CAV_6_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.435	0.435	0.200	0.200	0.235
Y	0.000	-393.652	-393.652	2000.000	2000.000	0.000
Z	0.000	0.258	0.258	0.200	0.200	0.058
D	210.300	211.209	0.909	0.200	0.200	0.709
RN	0.000	0.332	0.332	0.200	0.000	0.132

⊞	MM	LOC_CC14 - CIRC_CAV_6_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.413	0.413	0.200	0.200	0.213
Y	0.000	-383.135	-383.135	2000.000	2000.000	0.000
Z	0.000	0.164	0.164	0.200	0.200	0.000
D	210.300	211.262	0.962	0.200	0.200	0.762
RN	0.000	0.170	0.170	0.200	0.000	0.000

⊞	MM	LOC_CC15 - CIRC_CAV_7_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.304	0.304	0.200	0.200	0.104
Y	0.000	-277.121	-277.121	2000.000	2000.000	0.000
Z	0.000	0.148	0.148	0.200	0.200	0.000
D	210.300	211.248	0.948	0.200	0.200	0.748
RN	0.000	0.295	0.295	0.200	0.000	0.095

⊞	MM	LOC_CC16 - CIRC_CAV_7_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.356	0.356	0.200	0.200	0.156
Y	0.000	-266.560	-266.560	2000.000	2000.000	0.000
Z	0.000	0.074	0.074	0.200	0.200	0.000
D	210.300	211.195	0.895	0.200	0.200	0.695
RN	0.000	0.358	0.358	0.200	0.000	0.158

⊞	MM	LOC_CC17 - CIRC_CAV_8_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.368	0.368	0.200	0.200	0.168
Y	0.000	-160.731	-160.731	2000.000	2000.000	0.000
Z	0.000	-0.041	-0.041	0.200	0.200	0.000
D	210.300	211.237	0.937	0.200	0.200	0.737
RN	0.000	0.318	0.318	0.200	0.000	0.118

⌗	MM	LOC_CC18 - CIRC_CAV_8_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.332	0.332	0.200	0.200	0.132
Y	0.000	-150.686	-150.686	2000.000	2000.000	0.000
Z	0.000	0.087	0.087	0.200	0.200	0.000
D	210.300	211.192	0.892	0.200	0.200	0.692
RN	0.000	0.405	0.405	0.200	0.000	0.205

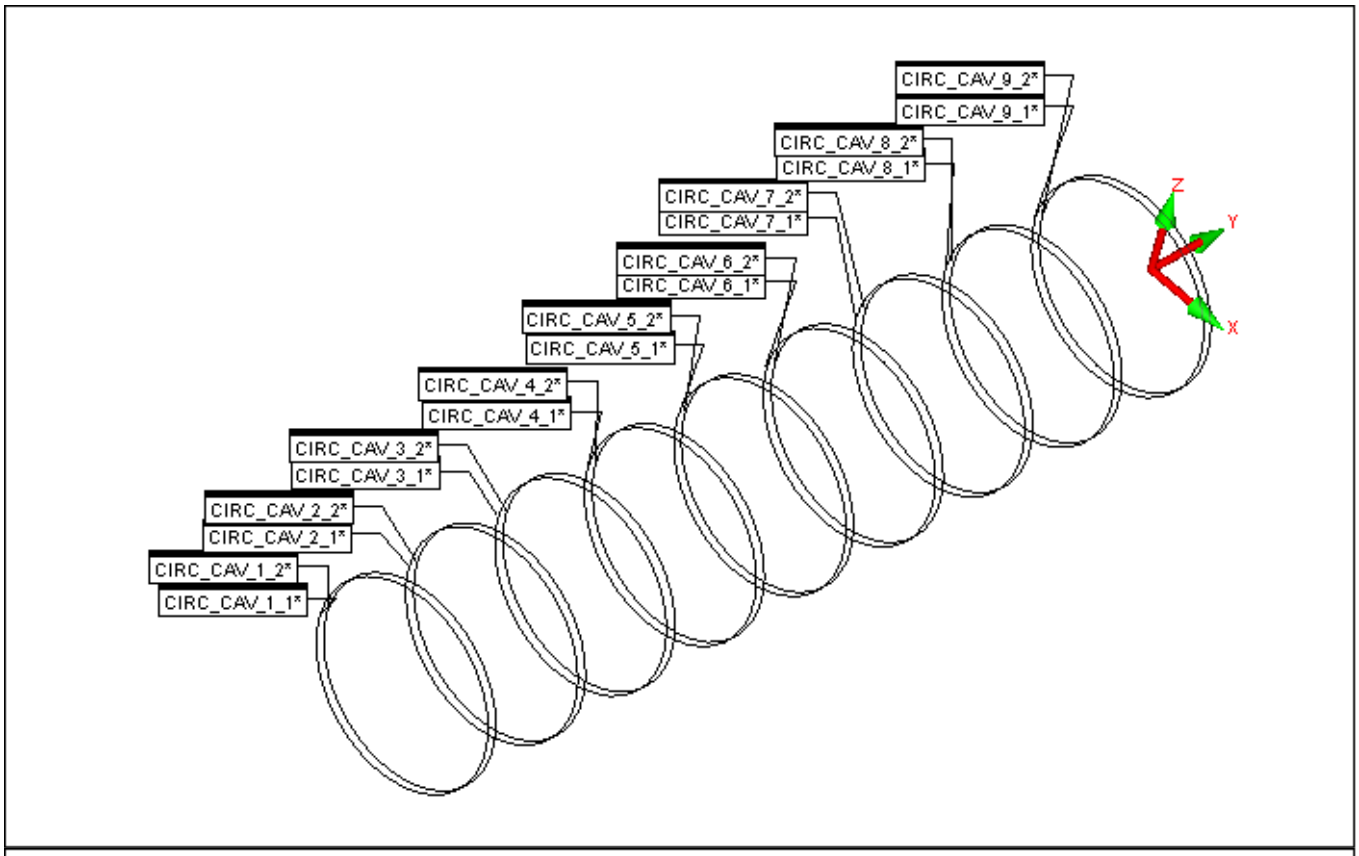
⌗	MM	LOC_CC19 - CIRC_CAV_9_1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.320	0.320	0.200	0.200	0.120
Y	0.000	-44.252	-44.252	2000.000	2000.000	0.000
Z	0.000	-0.045	-0.045	0.200	0.200	0.000
D	210.300	211.239	0.939	0.200	0.200	0.739
RN	0.000	0.343	0.343	0.200	0.000	0.143

⌗	MM	LOC_CC20 - CIRC_CAV_9_2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.282	0.282	0.200	0.200	0.082
Y	0.000	-34.539	-34.539	2000.000	2000.000	0.000
Z	0.000	-0.077	-0.077	0.200	0.200	0.000
D	210.300	210.814	0.514	0.200	0.200	0.314
RN	0.000	0.207	0.207	0.200	0.000	0.007

Location of End Flanges

⌗	MM	LOC_23 - CIR_END_FLANGE_MC				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.135	-0.135	0.200	0.200	0.000
Y	0.000	116.289	116.289	2000.000	2000.000	0.000
Z	0.000	0.024	0.024	0.200	0.200	0.000
D	140.000	139.921	-0.079	0.300	0.300	0.000
RN	0.000	0.011	0.011	0.200	0.000	0.000

⌗	MM	LOC_24 - CIR_END_FLANGE_FP				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.420	-0.420	0.200	0.200	0.220
Y	-1153.884	-1125.103	28.781	2000.000	2000.000	0.000
Z	0.000	-0.090	-0.090	0.200	0.200	0.000
D	140.000	139.954	-0.046	0.300	0.300	0.000
RN	0.000	0.006	0.006	0.200	0.000	0.000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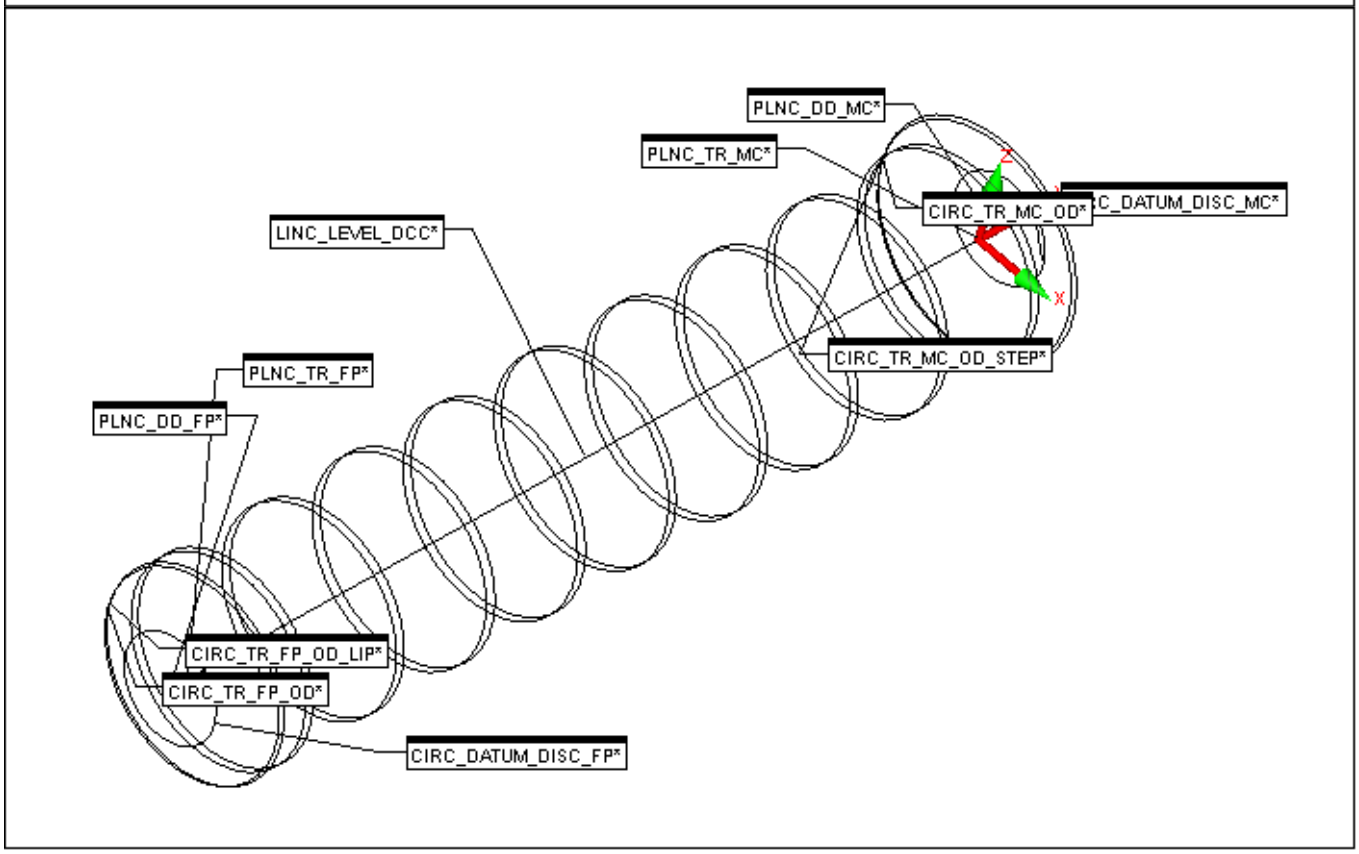
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