pc-dmis	PART NAME : 440004A		April 23, 2014	15:55
	REV NUMBER :	SER NUMBER :	STATS COUNT :	1

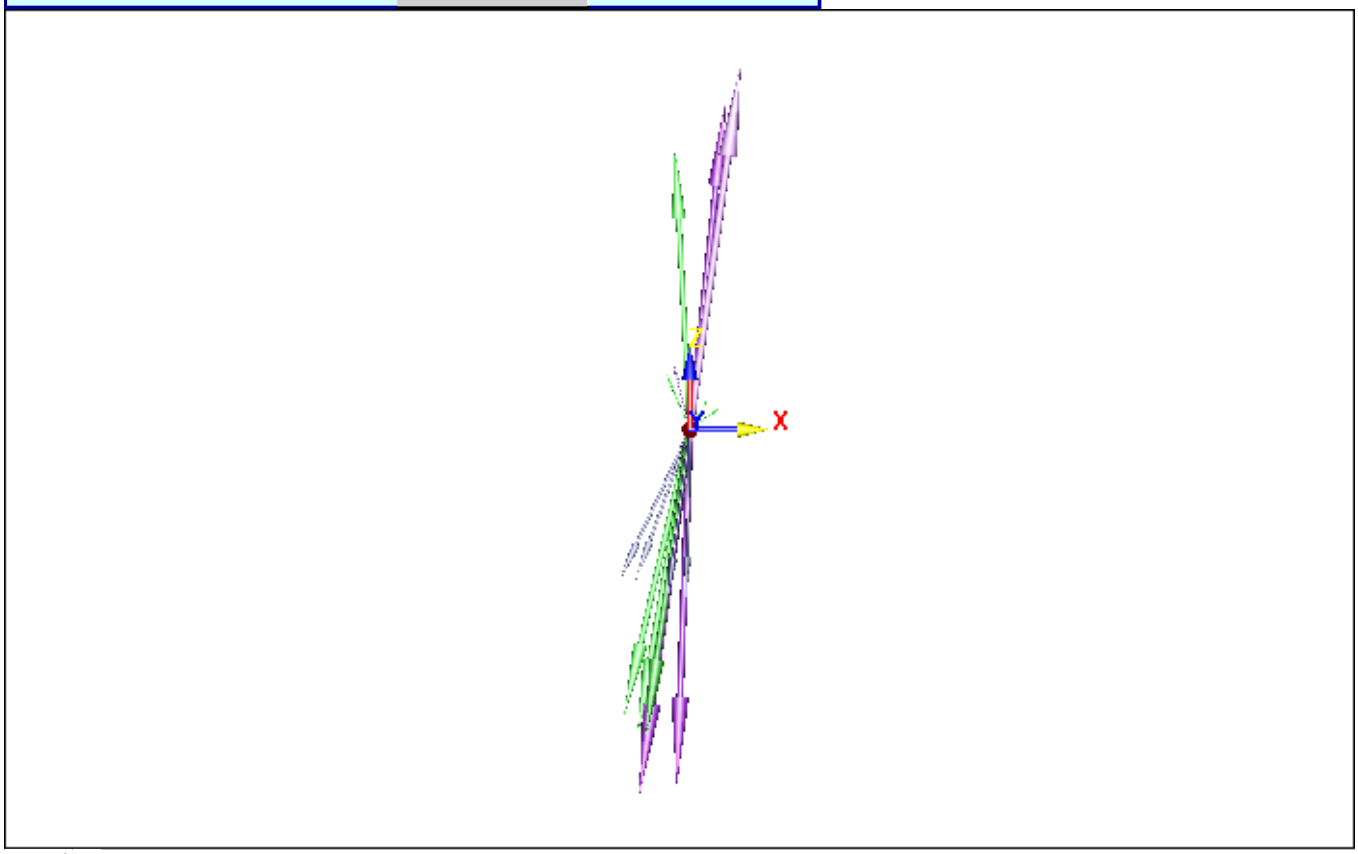
Part Number: 440004-A
SRF 1.3 GHz Superconducting R.F. Cavity

Sample Number : TB9AES033 RF96756
Inspected by : Robert Riley
Measurement Date : Apr/23/2014 13:43

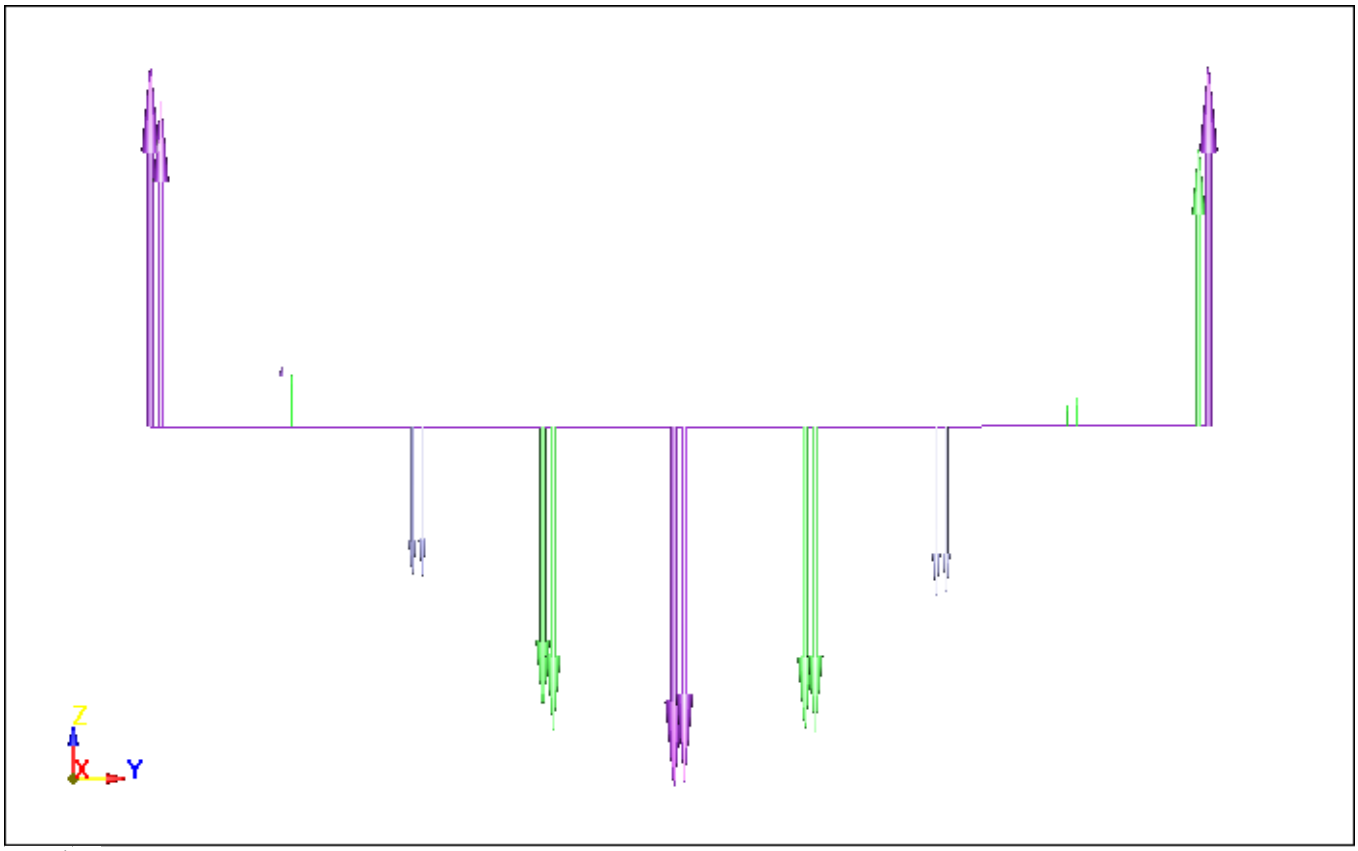
Straightness of measured half-cells

FCFSTRA1	MM	1

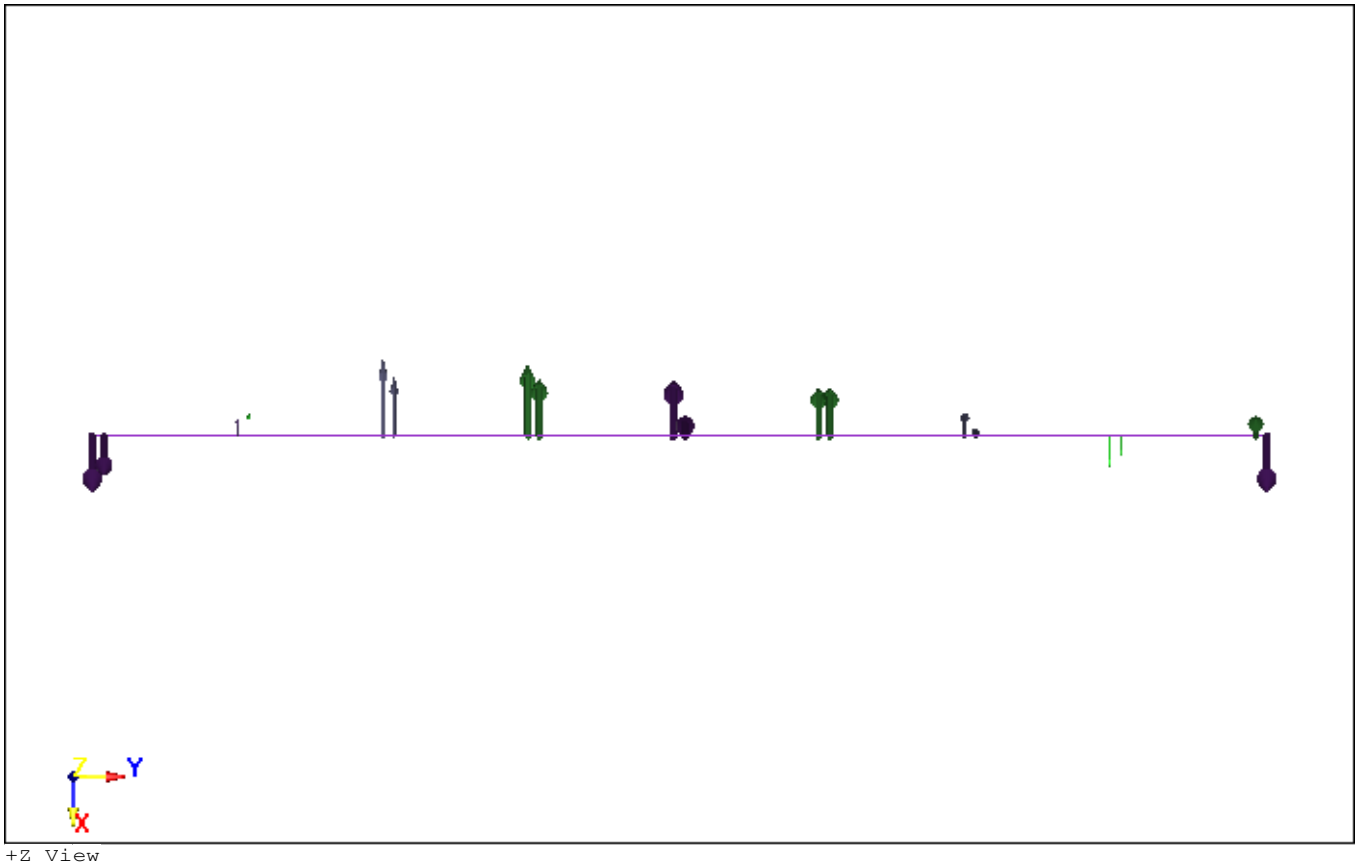
Feature	MEAS	OUTTOL	MAX	MIN
LINE_CELL_ODS	0.652	0.000	0.326	-0.326



-Y View
x1000



+X View
x1000



+Z View
x1000

⊕	MM	LOC01 - OD_CELL_1A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.048	0.048	0.200	0.200	0.000	
Z	0.000	-0.171	-0.171	0.200	0.200	0.000	
D	210.300	211.236	0.936	0.200	0.200	0.736	
RN	0.000	0.286	0.286	0.200	0.000	0.086	

⊕	MM	LOC02 - OD_CELL_1B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.034	0.034	0.200	0.200	0.000	
Z	0.000	-0.205	-0.205	0.200	0.200	0.005	
D	210.300	211.122	0.822	0.200	0.200	0.622	
RN	0.000	0.242	0.242	0.200	0.000	0.042	

⊕	MM	LOC03 - OD_CELL_2A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.011	-0.011	0.200	0.200	0.000	
Z	0.000	-0.422	-0.422	0.200	0.200	0.222	
D	210.300	211.189	0.889	0.200	0.200	0.689	
RN	0.000	0.272	0.272	0.200	0.000	0.072	

⊕	MM	LOC04 - OD_CELL_2B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.016	-0.016	0.200	0.200	0.000	
Z	0.000	-0.432	-0.432	0.200	0.200	0.232	
D	210.300	211.122	0.822	0.200	0.200	0.622	
RN	0.000	0.243	0.243	0.200	0.000	0.043	

⊕	MM	LOC05 - OD_CELL_3A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.059	-0.059	0.200	0.200	0.000	
Z	0.000	-0.604	-0.604	0.200	0.200	0.404	
D	210.300	211.192	0.892	0.200	0.200	0.692	
RN	0.000	0.280	0.280	0.200	0.000	0.080	

⊕	MM	LOC06 - OD_CELL_3B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.044	-0.044	0.200	0.200	0.000	
Z	0.000	-0.601	-0.601	0.200	0.200	0.401	
D	210.300	211.121	0.821	0.200	0.200	0.621	
RN	0.000	0.246	0.246	0.200	0.000	0.046	

⊕	MM	LOC07 - OD_CELL_4A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.054	-0.054	0.200	0.200	0.000	
Z	0.000	-0.710	-0.710	0.200	0.200	0.510	
D	210.300	211.133	0.833	0.200	0.200	0.633	
RN	0.000	0.317	0.317	0.200	0.000	0.117	

⊕	MM	LOC08 - OD_CELL_4B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.042	-0.042	0.200	0.200	0.000	
Z	0.000	-0.726	-0.726	0.200	0.200	0.526	
D	210.300	211.138	0.838	0.200	0.200	0.638	
RN	0.000	0.224	0.224	0.200	0.000	0.024	

⊕	MM	LOC09 - OD_CELL_5A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.040	-0.040	0.200	0.200	0.000	
Z	0.000	-0.769	-0.769	0.200	0.200	0.569	
D	210.300	211.209	0.909	0.200	0.200	0.709	
RN	0.000	0.241	0.241	0.200	0.000	0.041	

⊕	MM	LOC10 - OD_CELL_5B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.007	-0.007	0.200	0.200	0.000	
Z	0.000	-0.759	-0.759	0.200	0.200	0.559	
D	210.300	211.125	0.825	0.200	0.200	0.625	
RN	0.000	0.247	0.247	0.200	0.000	0.047	

⊕	MM	LOC11 - OD_CELL_6A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.034	-0.034	0.200	0.200	0.000	
Z	0.000	-0.705	-0.705	0.200	0.200	0.505	
D	210.300	211.114	0.814	0.200	0.200	0.614	
RN	0.000	0.269	0.269	0.200	0.000	0.069	

⊕	MM	LOC12 - OD_CELL_6B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.034	-0.034	0.200	0.200	0.000	
Z	0.000	-0.703	-0.703	0.200	0.200	0.503	
D	210.300	211.093	0.793	0.200	0.200	0.593	
RN	0.000	0.251	0.251	0.200	0.000	0.051	

⊕	MM	LOC13 - OD_CELL_7A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.014	-0.014	0.200	0.200	0.000	
Z	0.000	-0.572	-0.572	0.200	0.200	0.372	
D	210.300	211.152	0.852	0.200	0.200	0.652	
RN	0.000	0.256	0.256	0.200	0.000	0.056	

⊕	MM	LOC14 - OD_CELL_7B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.002	0.002	0.200	0.200	0.000	
Z	0.000	-0.569	-0.569	0.200	0.200	0.369	
D	210.300	211.161	0.861	0.200	0.200	0.661	
RN	0.000	0.241	0.241	0.200	0.000	0.041	

⊕	MM	LOC15 - OD_CELL_8A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.031	0.031	0.200	0.200	0.000	
Z	0.000	-0.390	-0.390	0.200	0.200	0.190	
D	210.300	211.157	0.857	0.200	0.200	0.657	
RN	0.000	0.254	0.254	0.200	0.000	0.054	

⌖	MM	LOC16 - OD_CELL_8B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.021	0.021	0.200	0.200	0.000	
Z	0.000	-0.382	-0.382	0.200	0.200	0.182	
D	210.300	211.105	0.805	0.200	0.200	0.605	
RN	0.000	0.226	0.226	0.200	0.000	0.026	

⌖	MM	LOC17 - OD_CELL_9A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.007	-0.007	0.200	0.200	0.000	
Z	0.000	-0.148	-0.148	0.200	0.200	0.000	
D	210.300	211.172	0.872	0.200	0.200	0.672	
RN	0.000	0.259	0.259	0.200	0.000	0.059	

⌖	MM	LOC18 - OD_CELL_9B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.051	0.051	0.200	0.200	0.000	
Z	0.000	-0.074	-0.074	0.200	0.200	0.000	
D	210.300	211.047	0.747	0.200	0.200	0.547	
RN	0.000	0.260	0.260	0.200	0.000	0.060	

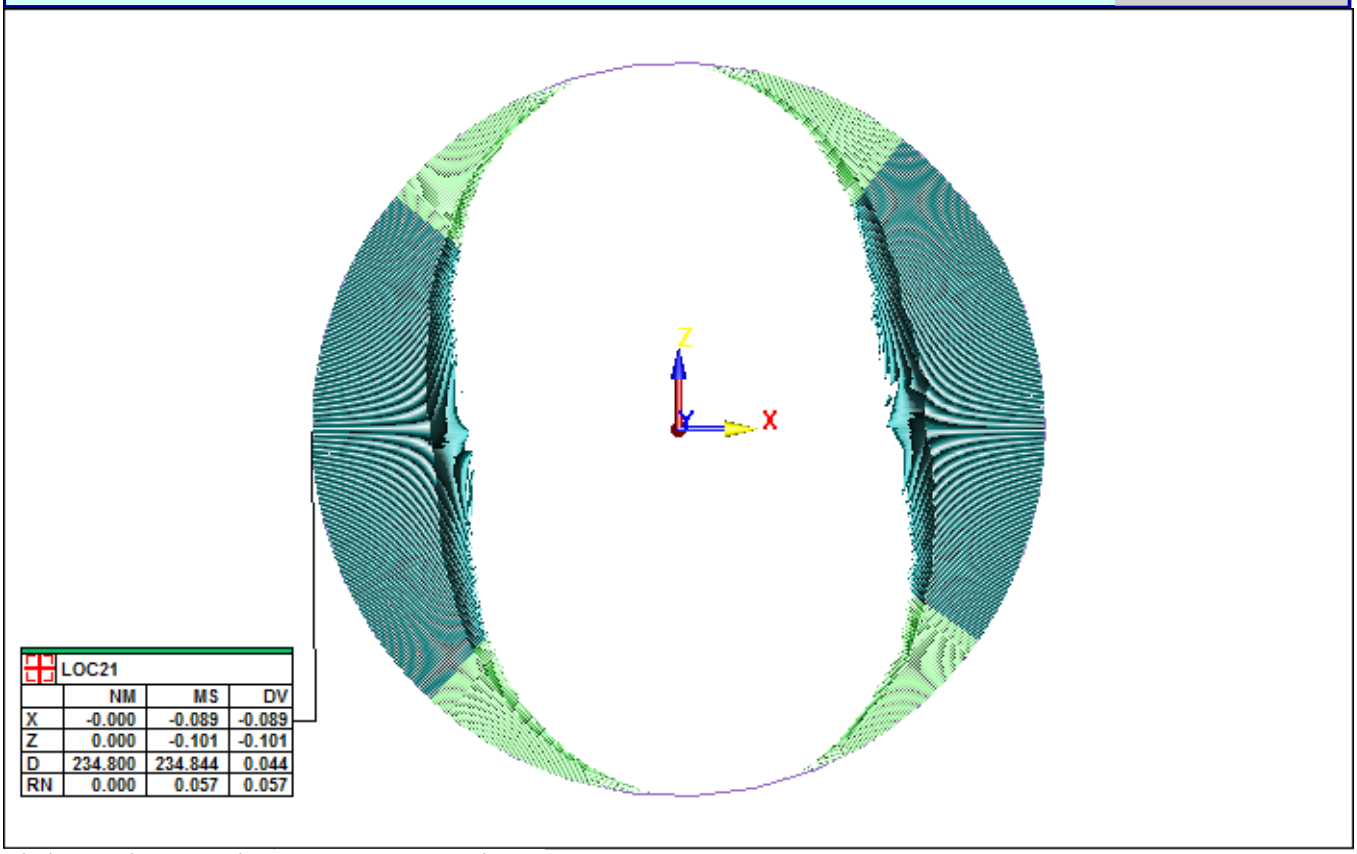
Datum Discs O.D.

MM	LOC19 - MC_DATUM_DISC_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.841	-0.159	0.050	0.050	0.109
RN	0.000	0.042	0.042	0.050	0.000	0.000

MM	LOC20 - FP_DATUM_DISC_OD					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.000	0.000	0.000	0.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	111.000	110.824	-0.176	0.050	0.050	0.126
RN	0.000	0.037	0.037	0.050	0.000	0.000

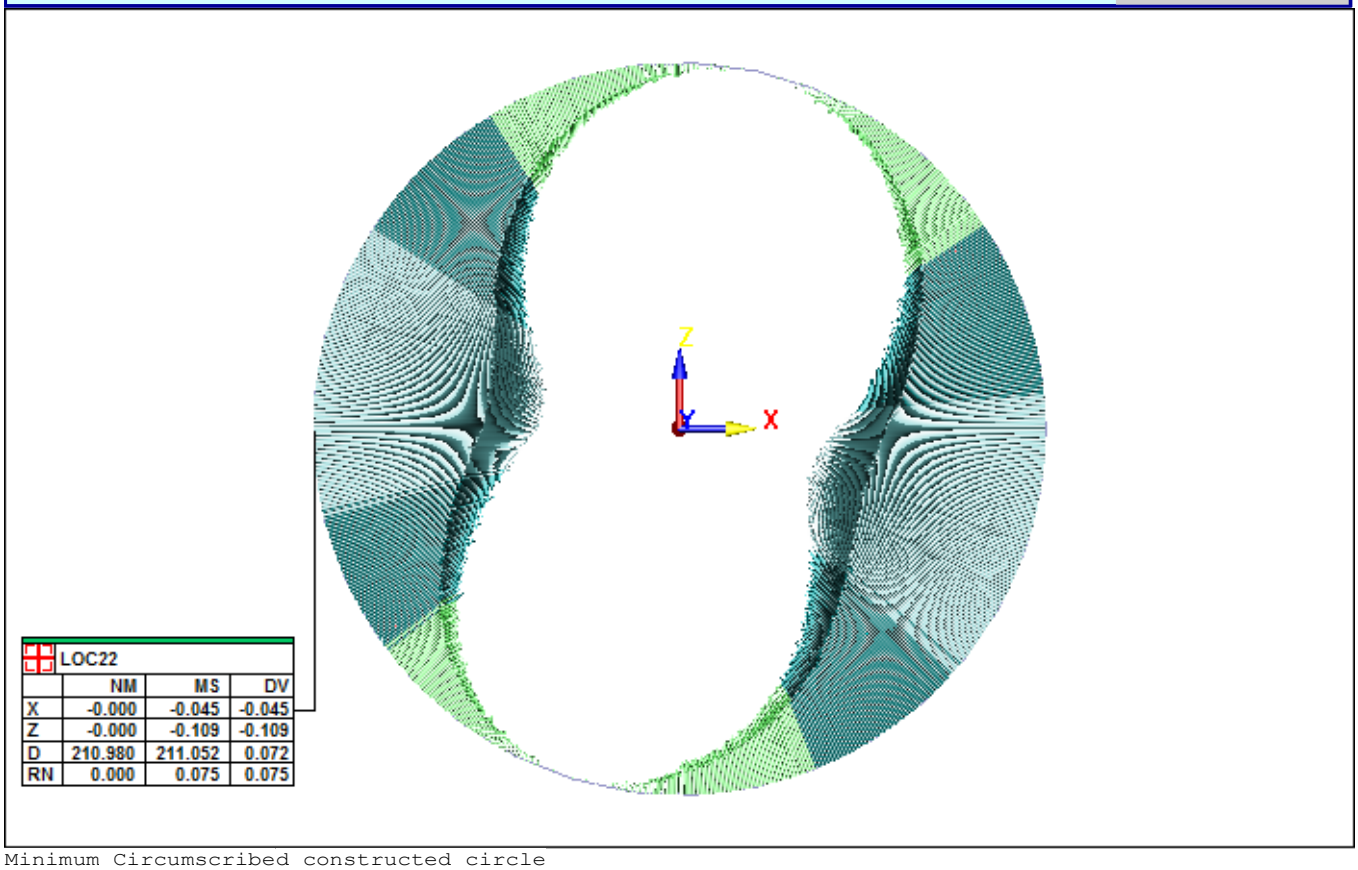
Transition Rings

MM	LOC21 - MC_TRANSITION_RING_LARGE_OD_MIN_CIR					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.089	-0.089	0.250	0.250	0.000
Z	0.000	-0.101	-0.101	0.250	0.250	0.000
D	234.800	234.844	0.044	0.250	0.250	0.000
RN	0.000	0.057	0.057	0.250	0.000	0.000



Minimum Circumscribed constructed circle
Transition Ring Main Coupler End
x1000

⌖	MM	LOC22 - FP_TRANSITION_RING_LARGE_OD_MIN_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.045	-0.045	0.250	0.250	0.000
Z	0.000	-0.109	-0.109	0.250	0.250	0.000
D	210.980	211.052	0.072	0.250	0.250	0.000
RN	0.000	0.075	0.075	0.250	0.000	0.000



Minimum Circumscribed constructed circle
Transition Ring Field Probe end
x1000

Transition Rings Planes

⌖	MM	LOC23 - MC_TRANSITION_RING_LARGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1124.114	1126.835	2.721	10.000	10.000	0.000
FL	0.000	0.193	0.193	0.200	0.000	0.000

AX	I	J	K
V	0.002	1.000	0.004

⌖	MM	LOC24 - FP_TRANSITION_RING_LARGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	120.088	119.899	-0.189	10.000	10.000	0.000
FL	0.000	0.277	0.277	0.200	0.000	0.077

AX	I	J	K
V	0.002	-1.000	0.004

Average distance between Transition Rings

↔	MM	DIST01 - MC_TRANSITION_RING_LARGE_PLN TO FP_TRANSITION_RING_LARGE_PLN (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1004.026	1006.936	2.910	1.000	1.000	1.910

⊕	MM	LOC25 - F_MAX_X1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	103.461	103.461	1000.000	1000.000	0.000	
Y	119.726	120.103	0.377	1.000	1.000	0.000	
Z	0.000	0.361	0.361	1000.000	1000.000	0.000	

⊕	MM	LOC26 - F_MIN_X1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-103.503	-103.503	1000.000	1000.000	0.000	
Y	119.726	119.886	0.160	1.000	1.000	0.000	
Z	0.000	-0.322	-0.322	1000.000	1000.000	0.000	

⊕	MM	LOC27 - F_MAX_Z1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	4.305	4.305	1000.000	1000.000	0.000	
Y	119.726	120.188	0.461	1.000	1.000	0.000	
Z	0.000	103.427	103.427	1000.000	1000.000	0.000	

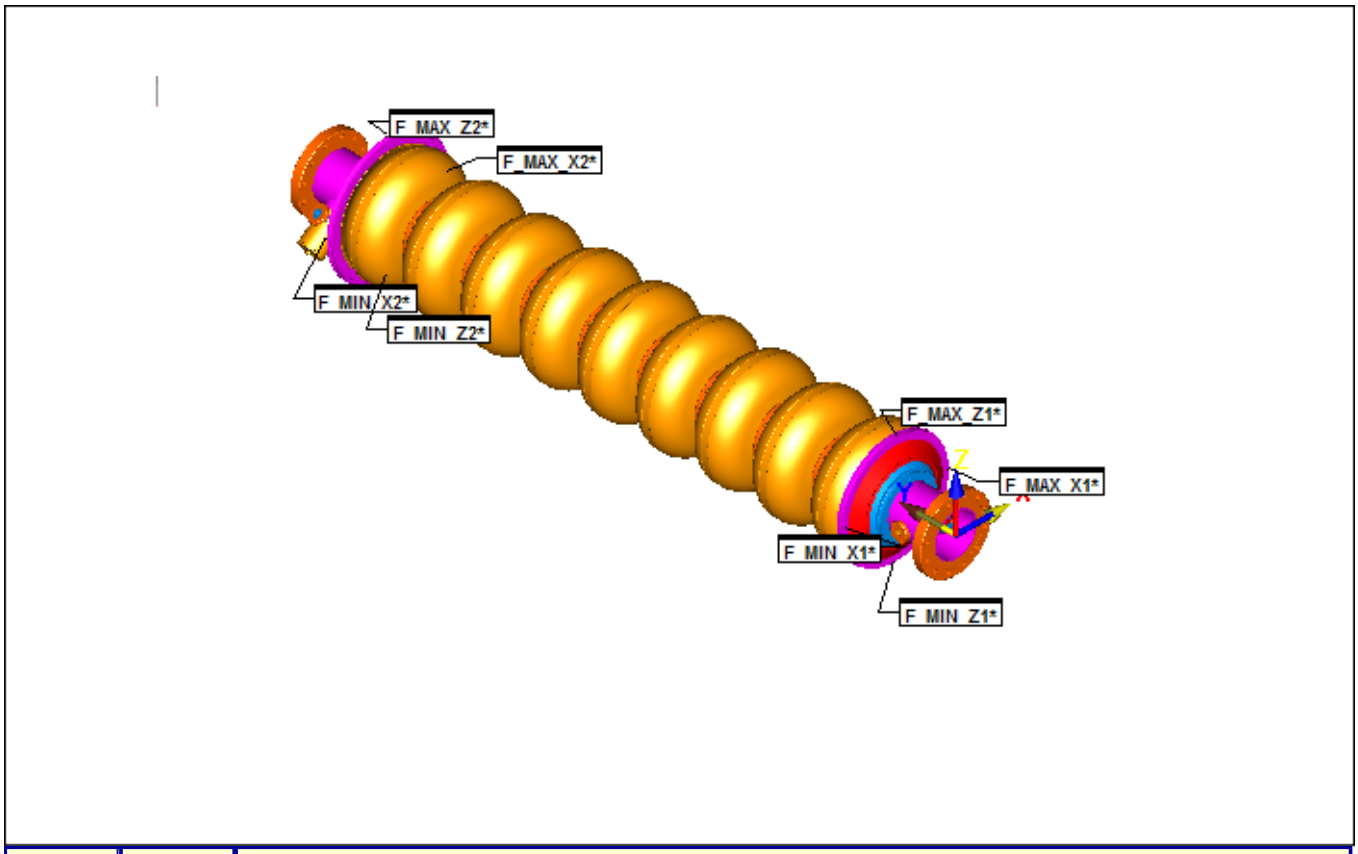
⊕	MM	LOC28 - F_MIN_Z1					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-2.537	-2.537	1000.000	1000.000	0.000	
Y	119.726	119.423	-0.303	1.000	1.000	0.000	
Z	0.000	-103.446	-103.446	1000.000	1000.000	0.000	

⊕	MM	LOC29 - F_MAX_X2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	117.899	117.899	1000.000	1000.000	0.000	
Y	1123.752	1126.347	2.595	1.000	1.000	1.595	
Z	0.000	-3.887	-3.887	1000.000	1000.000	0.000	

⊕	MM	LOC30 - F_MIN_X2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-117.965	-117.965	1000.000	1000.000	0.000	
Y	1123.752	1126.916	3.164	1.000	1.000	2.164	
Z	0.000	3.108	3.108	1000.000	1000.000	0.000	

⊕	MM	LOC31 - F_MAX_Z2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.598	0.598	1000.000	1000.000	0.000	
Y	1123.752	1126.271	2.519	1.000	1.000	1.519	
Z	0.000	117.986	117.986	1000.000	1000.000	0.000	

⊕	MM	LOC32 - F_MIN_Z2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.379	0.379	1000.000	1000.000	0.000	
Y	1123.752	1127.279	3.527	1.000	1.000	2.527	
Z	0.000	-117.983	-117.983	1000.000	1000.000	0.000	



↔	MM	DIST02 - F_MAX_X1 TO F_MAX_X2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1006.244	2.218	1.000	1.000	1.218	

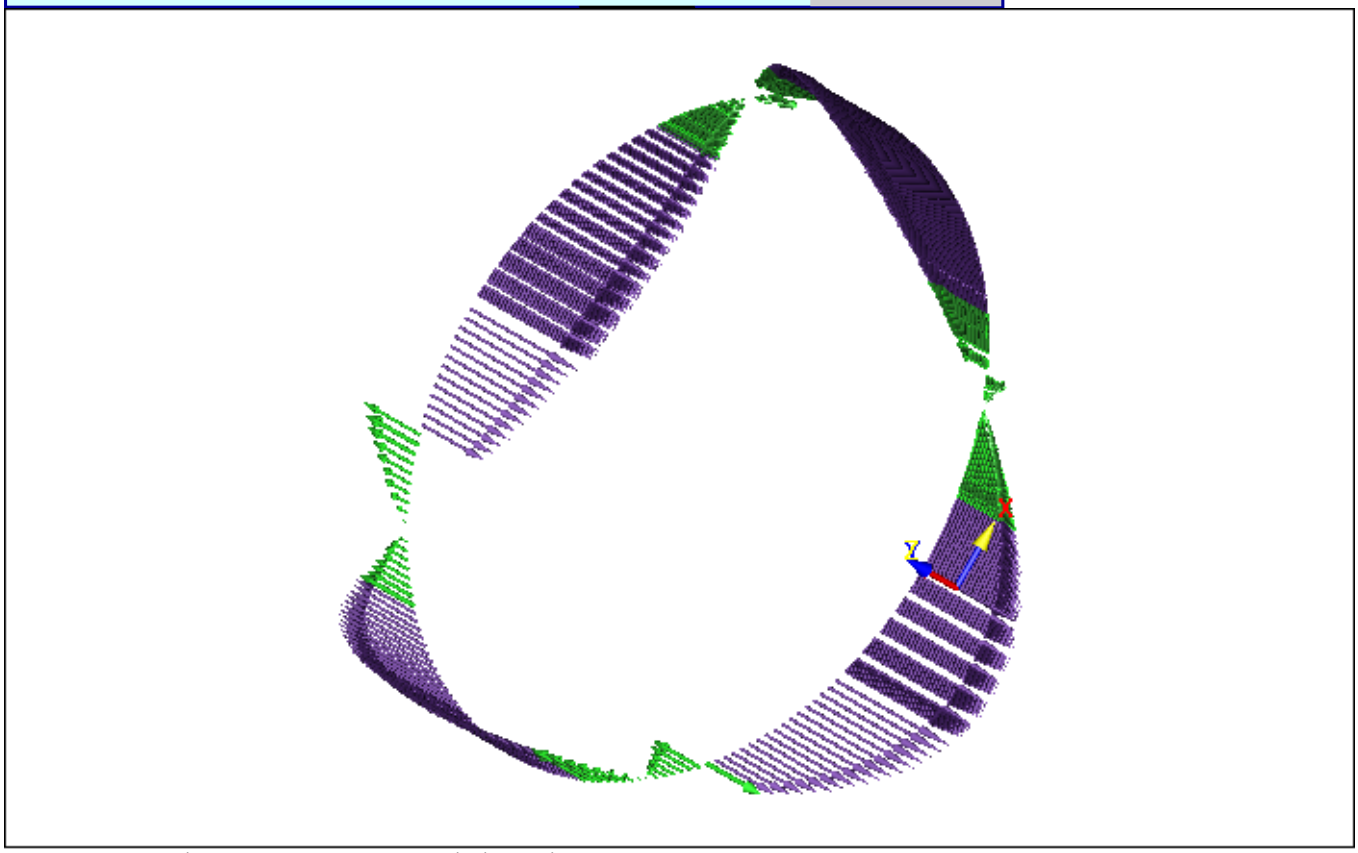
↔	MM	DIST03 - F_MAX_Z1 TO F_MAX_Z2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1006.084	2.058	1.000	1.000	1.058	

↔	MM	DIST04 - F_MIN_X1 TO F_MIN_X2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1007.030	3.004	1.000	1.000	2.004	

↔	MM	DIST05 - F_MIN_X1 TO F_MIN_Z2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1007.393	3.367	1.000	1.000	2.367	

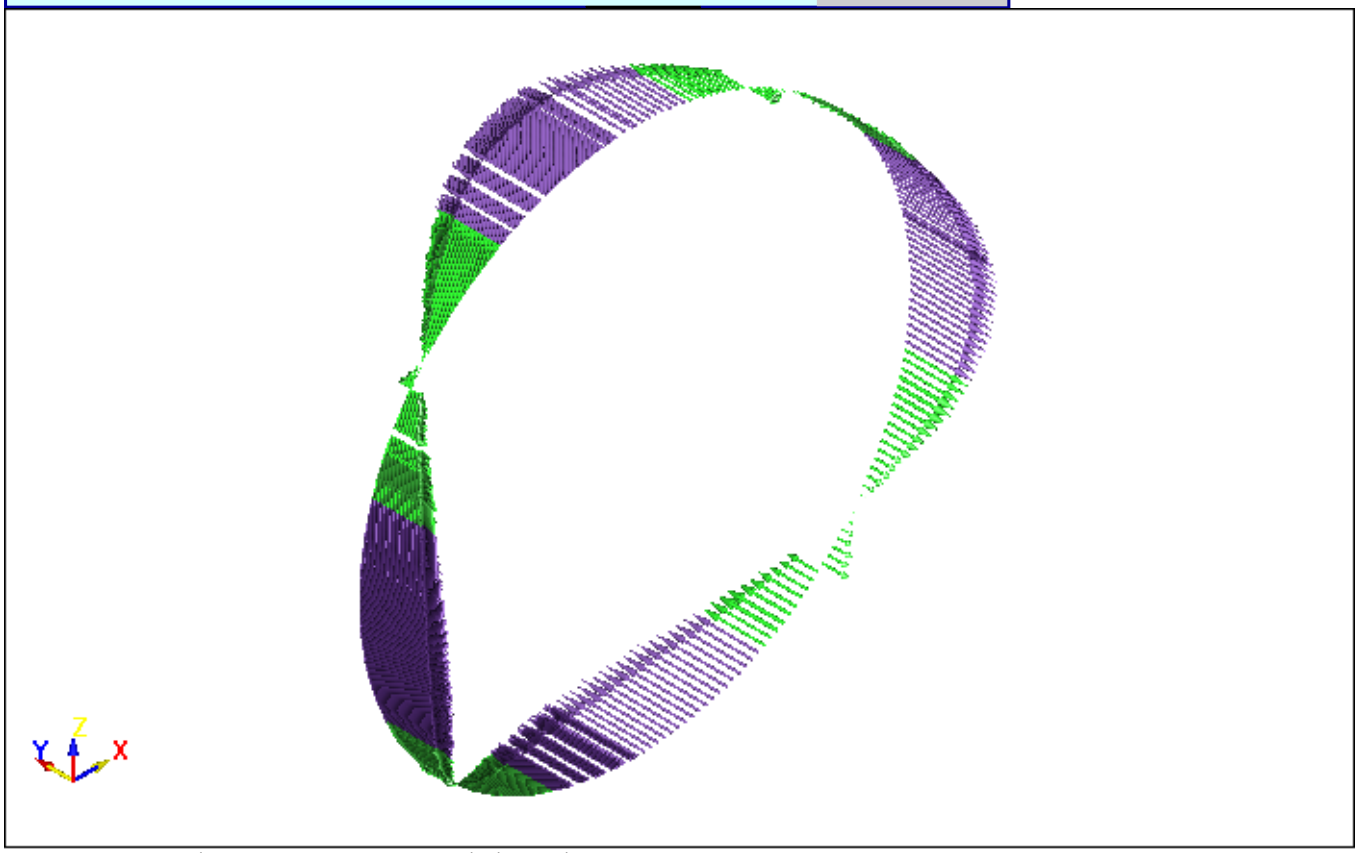
FCFFLAT1	MM	1

Feature	MEAS	OUTTOL	MAX	MIN
FP_TRANSITION_RING_LARGE_PLN	0.218	0.000	0.109	-0.109



Flatness of Field Probe End Transition Ring
x500

FCFFLAT2	MM	▱ 1		
Feature	MEAS	OUTTOL	MAX	MIN
MC_TRANSITION_RING_LARGE_PLN	0.158	0.000	0.079	-0.079



Flatness of Main Coupler End Transition Ring
x500

⌖	MM	LOC33 - FP_END_PLN_CONSTRUCTED					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
Y	0.000	0.000	0.000	0.001	0.001	0.000	
FL	0.000	0.073	0.073	0.200	0.000	0.000	

AX	I	J	K
V	0.000	-1.000	0.002

FCFPERP2	MM	⊥ | .2 | A

Feature	MEAS	OUTTOL	MAX	MIN
FP_END_PLN_CONSTRUCTED	0.310	0.110	0.186	0.124

∠	DEG	ANGL1 - FP_END_PLN_CONSTRUCTED TO Y_AXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
A	90.000	89.869	-0.131	0.100	0.100	0.031	

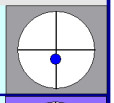
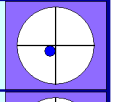
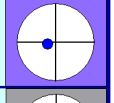
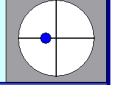
⌖	MM	LOC34 - FP_END_FLANGE_CIR					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.068	0.068	0.200	0.200	0.000	
Z	0.000	0.210	0.210	0.200	0.200	0.010	
D	140.000	140.048	0.048	0.300	0.300	0.000	
RN	0.000	0.017	0.017	0.200	0.000	0.000	

⟷	MM	DIST06 - FP_END_PLN_SS TO FP_END_PLN (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1.000	0.992	-0.008	0.100	0.100	0.000	

FCFLOC1 Size	MM	12XØ8.8 0.3/0.3

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	BONUS
FP_CIR1	8.800	8.760	-0.040	0.300	0.300	0.000	0.000
FP_CIR2	8.800	8.765	-0.035	0.300	0.300	0.000	0.000
FP_CIR3	8.800	8.769	-0.031	0.300	0.300	0.000	0.000
FP_CIR4	8.800	8.783	-0.017	0.300	0.300	0.000	0.000
FP_CIR5	8.800	8.764	-0.036	0.300	0.300	0.000	0.000
FP_CIR6	8.800	8.760	-0.040	0.300	0.300	0.000	0.000
FP_CIR7	8.800	8.779	-0.021	0.300	0.300	0.000	0.000
FP_CIR8	8.800	8.775	-0.025	0.300	0.300	0.000	0.000
FP_CIR9	8.800	8.766	-0.034	0.300	0.300	0.000	0.000
FP_CIR10	8.800	8.766	-0.034	0.300	0.300	0.000	0.000
FP_CIR11	8.800	8.776	-0.024	0.300	0.300	0.000	0.000
FP_CIR12	8.800	8.763	-0.037	0.300	0.300	0.000	0.000

FCFLOC1 Position	MM	⌖ | Ø.3 | C

Feature	MEAS	OUTTOL	BONUS	
FP_CIR1	0.069	0.000	0.000	
FP_CIR2	0.063	0.000	0.000	
FP_CIR3	0.063	0.000	0.000	
FP_CIR4	0.080	0.000	0.000	

FP_CIR5	0.000	0.070	0.070	0.300		0.000	0.000
FP_CIR6	0.000	0.023	0.023	0.300		0.000	0.000
FP_CIR7	0.000	0.049	0.049	0.300		0.000	0.000
FP_CIR8	0.000	0.068	0.068	0.300		0.000	0.000
FP_CIR9	0.000	0.080	0.080	0.300		0.000	0.000
FP_CIR10	0.000	0.080	0.080	0.300		0.000	0.000
FP_CIR11	0.000	0.065	0.065	0.300		0.000	0.000
FP_CIR12	0.000	0.069	0.069	0.300		0.000	0.000

FCFLOC1 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	-0.015	Fixed	-0.041	Fixed	-0.110	Fixed

FCFLOC1 Summary FIT TO DATUMS=ON, DEV PERPEN CENTERLINE=ON

Feature	AX	NOMINAL	MEAS	DEV
FP_CIR1	PR	60.000	59.966	-0.034
	PA	75.000	74.994	-0.006
FP_CIR2	PR	60.000	59.968	-0.032
	PA	45.000	45.001	0.001
FP_CIR3	PR	60.000	59.969	-0.031
	PA	15.000	15.000	0.000
FP_CIR4	PR	60.000	59.961	-0.039
	PA	-15.000	-15.010	-0.010
FP_CIR5	PR	60.000	59.967	-0.033
	PA	-45.000	-45.011	-0.011
FP_CIR6	PR	60.000	59.989	-0.012
	PA	-75.000	-74.998	0.002
FP_CIR7	PR	60.000	59.983	-0.017
	PA	-105.000	-104.983	0.017
FP_CIR8	PR	60.000	59.972	-0.028
	PA	-135.000	-134.981	0.019
FP_CIR9	PR	60.000	59.961	-0.039
	PA	-164.999	-164.990	0.010
FP_CIR10	PR	60.000	59.961	-0.039
	PA	165.001	165.010	0.010
FP_CIR11	PR	60.000	59.969	-0.031
	PA	135.000	135.009	0.009
FP_CIR12	PR	60.000	59.965	-0.035
	PA	105.000	105.000	0.000

	MM	LOC35 - MC_END_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1247.400	1249.674	2.274	3.000	3.000	0.000
FL	0.000	0.020	0.020	0.200	0.000	0.000

AX	I	J	K
V	0.000	1.000	0.002

FCFPERP3	MM	⊥ .2 A

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_END_FLANGE_PLN	0.000	0.300	0.300	0.200	0.000	0.100

	DEG	ANGL2 - MC_END_FLANGE_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.874	-0.126	0.100	0.100	0.026

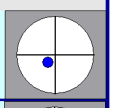
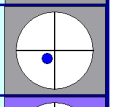
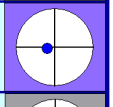
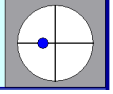
	MM	LOC36 - MC_END_FLANGE_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.035	-0.035	0.200	0.200	0.000
Z	0.000	0.241	0.241	0.200	0.200	0.041
D	140.000	140.025	0.025	0.300	0.300	0.000
RN	0.000	0.020	0.020	0.200	0.000	0.000

	MM	DIST07 - MC_END_FLANGE_PLN TO MC_END_FLANGE_PLN_SS (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	0.959	-0.041	0.100	0.100	0.000

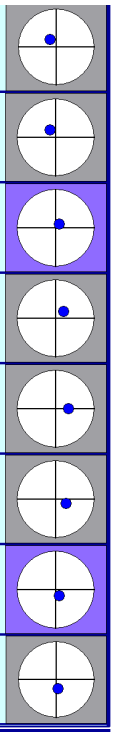
FCFLOC2 Size	MM	12XØ8.8 0.3/0.3

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	BONUS
MC_CIR1	8.800	8.765	-0.035	0.300	0.300	0.000	0.000
MC_CIR2	8.800	8.792	-0.008	0.300	0.300	0.000	0.000
MC_CIR3	8.800	8.743	-0.057	0.300	0.300	0.000	0.000
MC_CIR4	8.800	8.762	-0.038	0.300	0.300	0.000	0.000
MC_CIR5	8.800	8.746	-0.054	0.300	0.300	0.000	0.000
MC_CIR6	8.800	8.758	-0.042	0.300	0.300	0.000	0.000
MC_CIR7	8.800	8.756	-0.044	0.300	0.300	0.000	0.000
MC_CIR8	8.800	8.753	-0.047	0.300	0.300	0.000	0.000
MC_CIR9	8.800	8.744	-0.056	0.300	0.300	0.000	0.000
MC_CIR10	8.800	8.746	-0.054	0.300	0.300	0.000	0.000
MC_CIR11	8.800	8.753	-0.047	0.300	0.300	0.000	0.000
MC_CIR12	8.800	8.753	-0.047	0.300	0.300	0.000	0.000

FCFLOC2 Position	MM	⌖ Ø.3 E

Feature	MEAS	OUTTOL	BONUS	
MC_CIR1	0.082	0.000	0.000	
MC_CIR2	0.086	0.000	0.000	
MC_CIR3	0.058	0.000	0.000	
MC_CIR4	0.098	0.000	0.000	

MC_CIR5	0.000	0.076	0.076	0.300		0.000	0.000
MC_CIR6	0.000	0.072	0.072	0.300		0.000	0.000
MC_CIR7	0.000	0.044	0.044	0.300		0.000	0.000
MC_CIR8	0.000	0.083	0.083	0.300		0.000	0.000
MC_CIR9	0.000	0.098	0.098	0.300		0.000	0.000
MC_CIR10	0.000	0.085	0.085	0.300		0.000	0.000
MC_CIR11	0.000	0.058	0.058	0.300		0.000	0.000
MC_CIR12	0.000	0.072	0.072	0.300		0.000	0.000



FCFLOC2 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	0.283	Fixed	-2.726	Fixed	-0.315	Fixed

FCFLOC2 Summary FIT TO DATUMS=ON, DEV PERPEN CENTERLINE=ON

Feature	AX	NOMINAL	MEAS	DEV
MC_CIR1	PR	60.000	59.964	-0.036
	PA	75.000	75.019	0.019
MC_CIR2	PR	60.000	59.957	-0.043
	PA	45.001	44.999	-0.001
MC_CIR3	PR	60.000	59.971	-0.029
	PA	15.001	15.003	0.003
MC_CIR4	PR	60.000	59.952	-0.047
	PA	-15.000	-15.012	-0.012
MC_CIR5	PR	60.000	59.962	-0.038
	PA	-45.000	-44.996	0.003
MC_CIR6	PR	60.000	59.967	-0.033
	PA	-75.000	-75.013	-0.013
MC_CIR7	PR	60.000	59.981	-0.019
	PA	-105.000	-104.990	0.010
MC_CIR8	PR	60.000	59.959	-0.041
	PA	-135.000	-134.997	0.004
MC_CIR9	PR	60.000	59.953	-0.047
	PA	-165.000	-164.988	0.012
MC_CIR10	PR	60.000	59.959	-0.042
	PA	165.000	165.006	0.006
MC_CIR11	PR	60.000	59.972	-0.028
	PA	135.000	135.008	0.007
MC_CIR12	PR	60.000	59.965	-0.036
	PA	105.000	105.004	0.003

Datum Disc planes

Datum Disc Field Probe End

⌖	MM	LOC37 - FP_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	92.842	92.881	0.039	0.200	0.200	0.000
FL	0.000	0.099	0.099	0.200	0.000	0.000

AX	I	J	K
V	0.001	-1.000	0.003

FCFPERP4	MM	⊥ .2 A

Feature	MEAS	OUTTOL
FP_DATUM_DISC_PLN	0.332	0.132

∠	DEG	ANGL3 - FP_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	90.171	0.171	0.100	0.100	0.071

Datum Disc Main Coupler End

⌖	MM	LOC38 - MC_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1153.900	1156.208	2.308	0.200	0.200	2.108
FL	0.000	0.055	0.055	0.200	0.000	0.000

AX	I	J	K
V	0.004	1.000	0.004

FCFPERP5	MM	⊥ .2 A

Feature	MEAS	OUTTOL
MC_DATUM_DISC_PLN	0.638	0.438

∠	DEG	ANGL4 - MC_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.667	-0.333	0.100	0.100	0.233

Distance between Datum Discs

↔	MM	DIST08 - FP_DATUM_DISC_PLN TO MC_DATUM_DISC_PLN (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1061.057	1063.327	2.270	0.200	0.200	2.070

↔	MM	DIST09 - MC_DATUM_DISC_PLN TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	93.500	93.466	-0.035	0.200	0.200	0.000

Field Probe Flange

⌖	MM	LOC39 - FP_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-53.800	-54.296	-0.496	0.200	0.200	0.296
FL	0.000	0.004	0.004	0.200	0.000	0.000

AX	I	J	K
V	-1.000	-0.004	0.001

FCFPARL1	MM	// .2 X-

Feature	MEAS	OUTTOL
FP_FLANGE_PLN	0.111	0.000

∠	DEG	ANGL5 - FP_FLANGE_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.234	-0.234	0.100	0.100	0.134

⌖	MM	LOC40 - FP_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	60.600	60.525	-0.075	0.200	0.200	0.000
Z	0.000	-0.338	-0.338	0.200	0.200	0.138
D	33.800	33.853	0.053	0.150	0.150	0.000
RN	0.000	0.014	0.014	0.150	0.000	0.000
⟷	MM	DIST10 - FP_FLANGE_PLN TO FP_FLANGE_PLN_SS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.500	0.560	0.060	0.200	0.200	0.000

Main Coupler Flange

⌖	MM	LOC41 - MC_NW40_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	88.000	87.942	-0.058	0.200	0.200	0.000
FL	0.000	0.005	0.005	0.200	0.000	0.000

AX	I	J	K
V	1.000	-0.004	0.001

FCFPARL2	MM	// | 2 | X-				
Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_NW40_PLN	0.000	0.237	0.237	0.200	0.000	0.037
∠	DEG	ANGL6 - MC_NW40_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.212	-0.212	0.100	0.100	0.112
⟷	MM	DIST11 - MC_NW40_PLN TO MC_NW40_PLN_SS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.500	0.492	-0.008	0.200	0.200	0.000
⌖	MM	LOC42 - MC_NW40_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1186.800	1188.965	2.165	0.200	0.200	1.965
Z	0.000	0.024	0.024	0.200	0.200	0.000
D	76.000	76.039	0.039	0.200	0.200	0.000
RN	0.000	0.009	0.009	0.200	0.000	0.000
⟷	MM	DIST12 - MC_NW40_CIR TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.709	0.109	0.200	0.200	0.000

Main Coupler Flange Hole Pattern offset to -Z- axis (rotation)
and Hole Pattern

∠	DEG	ANGL_22PT5 - MC_NW40_22PT5_ANGLE TO ZAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	22.500	22.770	0.270	0.500	0.500	0.000

FCFLOC3 Size	MM	8XØ6.7 0.3/0.3

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_NW40_BH_1	6.700	6.777	0.077	0.300	0.300	0.000
MC_NW40_BH_2	6.700	6.781	0.081	0.300	0.300	0.000
MC_NW40_BH_3	6.700	6.799	0.099	0.300	0.300	0.000
MC_NW40_BH_4	6.700	6.769	0.069	0.300	0.300	0.000
MC_NW40_BH_5	6.700	6.785	0.085	0.300	0.300	0.000
MC_NW40_BH_6	6.700	6.790	0.090	0.300	0.300	0.000
MC_NW40_BH_7	6.700	6.785	0.085	0.300	0.300	0.000
MC_NW40_BH_8	6.700	6.791	0.091	0.300	0.300	0.000

FCFLOC3 Position	MM	⌖ Ø.3 X-

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_NW40_BH_1	0.000	0.047	0.047	0.300		0.000
MC_NW40_BH_2	0.000	0.090	0.090	0.300		0.000
MC_NW40_BH_3	0.000	0.071	0.071	0.300		0.000
MC_NW40_BH_4	0.000	0.155	0.155	0.300		0.000
MC_NW40_BH_5	0.000	0.096	0.096	0.300		0.000
MC_NW40_BH_6	0.000	0.125	0.125	0.300		0.000
MC_NW40_BH_7	0.000	0.097	0.097	0.300		0.000
MC_NW40_BH_8	0.000	0.155	0.155	0.300		0.000

FCFLOC3 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	Fixed	2.111	5.258	0.253	Fixed	Fixed

FCFLOC3 Summary FIT TO DATUMS=ON, DEV PERPEN CENTERLINE=ON

Feature	AX	NOMINAL	MEAS	DEV
MC_NW40_BH_1	PR	1175.016	1175.038	0.022
	PA	1.430	1.430	0.000
MC_NW40_BH_2	PR	1157.531	1157.569	0.038
	PA	0.601	0.600	-0.001
MC_NW40_BH_3	PR	1157.531	1157.564	0.033
	PA	-0.601	-0.600	0.001
MC_NW40_BH_4	PR	1175.016	1175.044	0.028
	PA	-1.430	-1.427	0.004
MC_NW40_BH_5	PR	1199.309	1199.270	-0.039
	PA	-1.402	-1.400	0.001
MC_NW40_BH_6	PR	1216.194	1216.132	-0.062
	PA	-0.572	-0.573	0.000
MC_NW40_BH_7	PR	1216.194	1216.154	-0.040
	PA	0.572	0.571	-0.001

MC_NW40_BH_8	PR	1199.309	1199.277	-0.032
	PA	1.402	1.398	-0.003

Main Coupler HOM Flange

⊕	MM	LOC43 - MC_HOM_FLANGE_PLN				
AX	MEAS	+TOL	OUTTOL			
FL	0.002	0.200	0.000			
AX	I	J	K			
V	-0.562	0.253	0.788			
∠	DEG	ANGL7 - MC_HOM_FLANGE_PLN TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.511	0.511	0.500	0.500	0.011
⊕	MM	LOC44 - MC_HOM_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-71.549	-71.307	0.242	10.000	10.000	0.000
Y	1190.022	1192.143	2.121	10.000	10.000	0.000
Z	-9.573	-10.507	-0.934	10.000	10.000	0.000
D	33.800	33.828	0.028	0.150	0.150	0.000
RN	0.000	0.013	0.013	0.150	0.000	0.000
↔	MM	DIST13 - MC_HOM_FLANGE_PLN_SS TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.500	0.545	0.045	0.050	0.050	0.000

Main Coupler HOM

⊕	MM	LOC45 - MC_FORMTEIL_CYL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-88.468	-85.485	2.983	100.000	100.000	0.000
Y	1186.800	1189.154	2.354	0.200	0.200	2.154
Z	-61.946	-61.076	0.871	100.000	100.000	0.000
D	44.000	44.041	0.041	0.000	0.100	0.041
RN	0.000	0.188	0.188	0.100	0.000	0.088
AX	I	J	K			
V	0.812	0.003	0.584			
↔	MM	DIST14 - MC_FORMTEIL_CYL TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.520	-0.080	0.200	0.200	0.000
∠	DEG	ANGL8 - MC_FORMTEIL_CYL TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.716	0.716	0.500	0.500	0.216
∠	DEG	ANGL11 - MC_FORMTEIL_CYL TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.851	-0.149	0.500	0.500	0.000
⊕	MM	LOC46 - MC_FORMTEIL_BUTTON_PNT				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	116.020	0.020	0.200	0.200	0.000
⊕	MM	LOC47 - MC_FORMTEIL_COVER_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	111.000	110.965	-0.035	0.200	0.200	0.000
FL	0.000	0.024	0.024	0.200	0.000	0.000

Field Probe HOM Flange

⌖	MM	LOC48 - FP_HOM_FLANGE_PLN					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
FL	0.000	0.005	0.005	0.200	0.000	0.000	
AX		I		J		K	
V		-0.475		-0.273		-0.837	
∠	DEG	ANGL9 - FP_HOM_FLANGE_PLN TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
A	30.000	29.605	-0.395	0.500	0.500	0.000	
⌖	MM	LOC49 - FP_HOM_FLANGE					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	38.431	39.066	0.635	10.000	10.000	0.000	
Y	57.119	56.589	-0.530	10.000	10.000	0.000	
Z	-61.636	-61.198	0.438	10.000	10.000	0.000	
D	33.800	33.833	0.033	0.150	0.150	0.000	
RN	0.000	0.012	0.012	0.150	0.000	0.000	
↔	MM	DIST15 - FP_HOM_FLANGE_PLN_SS TO FP_HOM_FLANGE_PLN					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	0.500	0.530	0.030	0.050	0.050	0.000	

Field Probe HOM

⌖	MM	LOC50 - FP_FORMTEIL_CYL					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	93.531	91.469	-2.061	100.000	100.000	0.000	
Y	60.600	60.356	-0.244	0.200	0.200	0.044	
Z	-54.000	-51.682	2.318	100.000	100.000	0.000	
D	44.000	43.895	-0.105	0.000	0.100	0.005	
RN	0.000	0.047	0.047	0.100	0.000	0.000	
AX		I		J		K	
V		-0.870		0.002		0.492	
↔	MM	DIST16 - FP_FORMTEIL_CYL TO FP_END_PLN_CONSTRUCTED (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	60.600	60.356	-0.244	0.200	0.200	0.044	
∠	DEG	ANGL10 - FP_FORMTEIL_CYL TO XAXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
A	30.000	29.484	-0.516	0.500	0.500	0.016	
∠	DEG	ANGL12 - FP_FORMTEIL_CYL TO Y_AXIS					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
A	90.000	89.865	-0.135	0.500	0.500	0.000	
⌖	MM	LOC51 - FP_FORMTEIL_BUTTON_PNT					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
PR	116.000	116.080	0.080	0.200	0.200	0.000	
⌖	MM	LOC52 - FP_FORMTEIL_COVER_PLN					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
PR	111.000	111.029	0.029	0.200	0.200	0.000	
FL	0.000	0.013	0.013	0.200	0.000	0.000	

	MM	LOC53 - PNT_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-56.665	-56.513	0.151	0.200	0.200	0.000
Y	1183.070	1185.199	2.129	3.000	3.000	0.000
Z	-31.531	-31.856	-0.325	0.200	0.200	0.125
T	0.000	0.211	0.211	0.200	0.200	0.011

	MM	LOC54 - PLN_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-55.776	-55.632	0.144	0.200	0.200	0.000
Y	1184.500	1186.648	2.148	3.000	3.000	0.000
Z	-31.376	-31.674	-0.298	0.200	0.200	0.098
T	0.000	0.241	0.241	0.200	0.200	0.041
FL	0.000	0.001	0.001	0.200	0.000	0.000

AX	I	J	K
V	-0.564	0.244	0.789

	MM	DIST17 - PNT_MC_FORMTEIL TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.400	28.468	0.068	0.200	0.200	0.000

	MM	DIST18 - PLN_MC_FORMTEIL TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.400	28.455	0.055	0.200	0.200	0.000

	DEG	ANGL13 - PLN_MC_FORMTEIL TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.518	-0.518	1.000	1.000	0.000