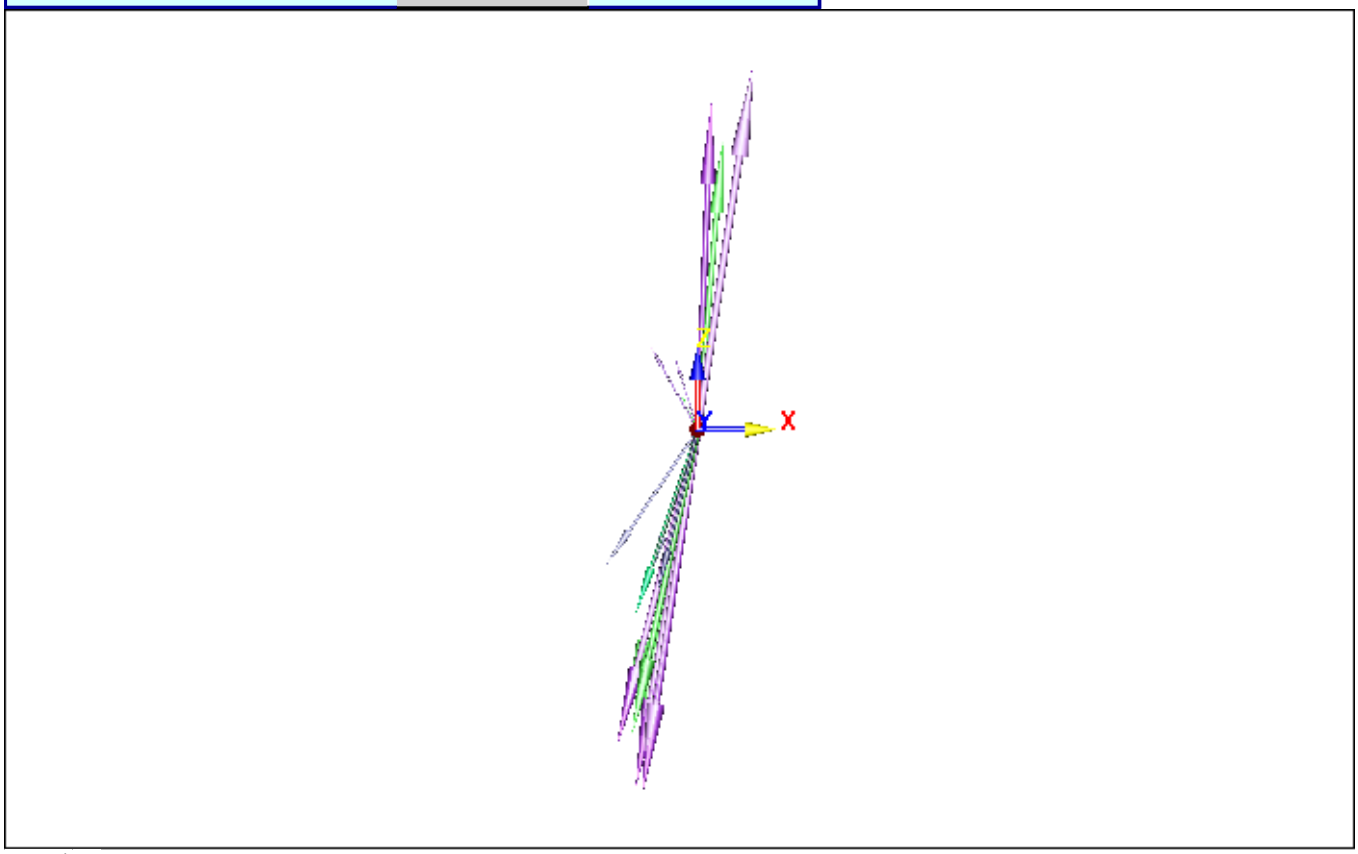
pc-dmis	PART NAME : 440004A	April 22, 2014	06:41
	REV NUMBER :	SER NUMBER :	STATS COUNT : 1

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

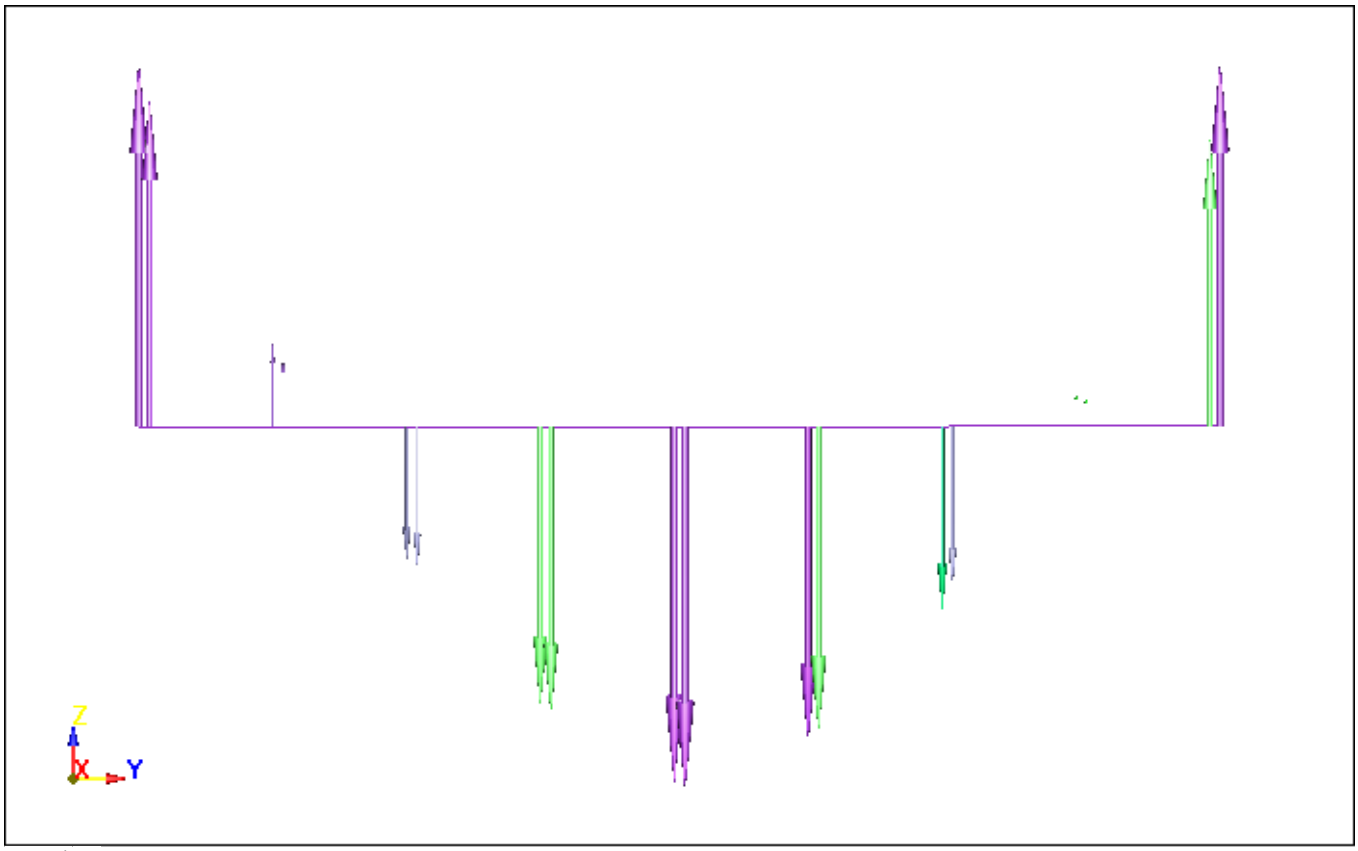
Sample Number : TB9AES035 RF96758
Inspected by : Robert Riley
Measurement Date : Apr/21/2014 14:04

Straightness of measured half-cells

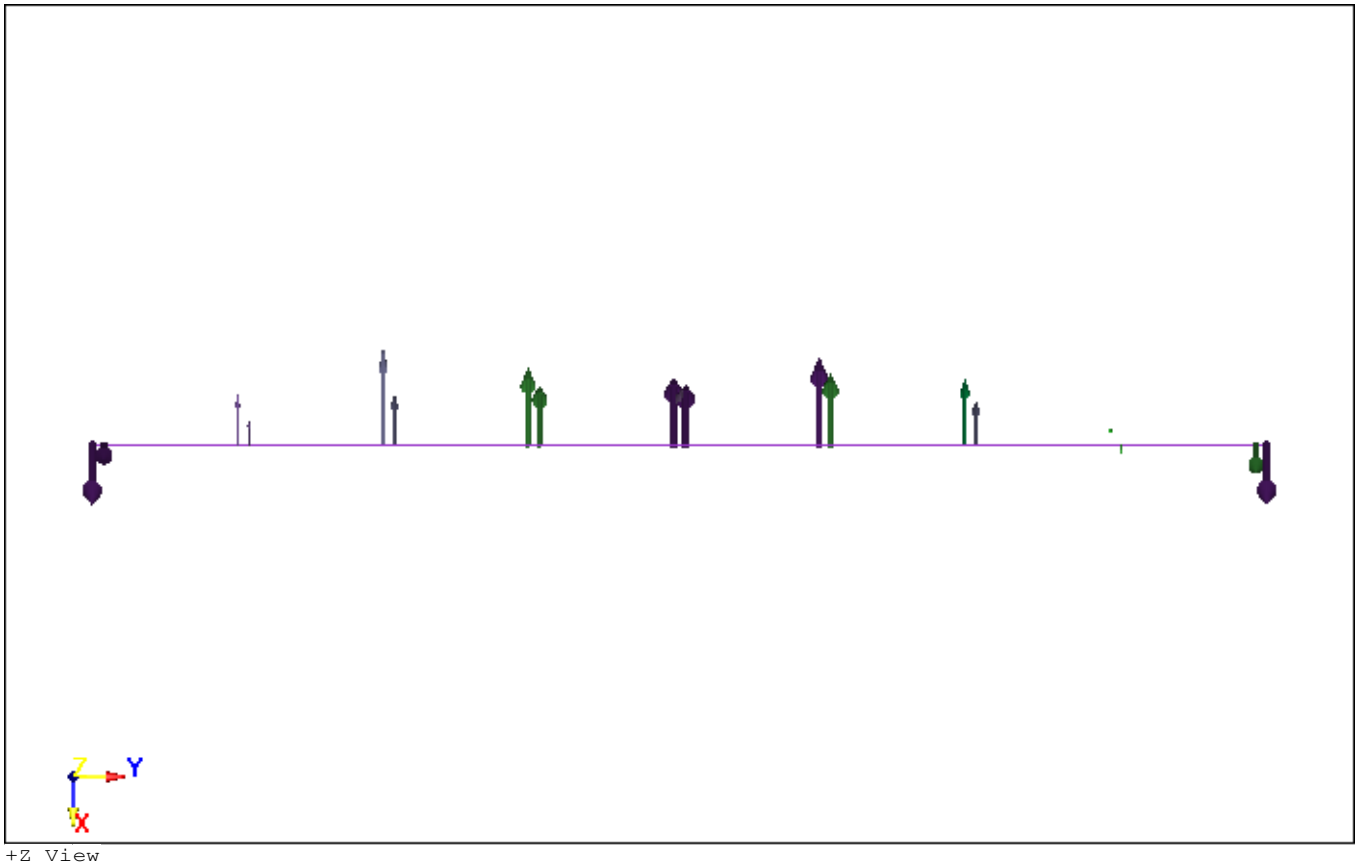
FCFSTRA1	MM	1		
Feature	MEAS	OUTTOL	MAX	MIN
LINE_CELL_ODS	0.639	0.000	0.320	-0.320



-Y View
x1000



+X View
x1000



+Z View
x1000

	MM	LOC01 - OD_CELL_1A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.164	0.164	0.200	0.200	0.000
Z	0.000	-0.548	-0.548	0.200	0.200	0.348
D	210.300	211.243	0.943	0.200	0.200	0.743
RN	0.000	0.264	0.264	0.200	0.000	0.064

⊕	MM	LOC02 - OD_CELL_1B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.126	0.126	0.200	0.200	0.000
Z	0.000	-0.577	-0.577	0.200	0.200	0.377
D	210.300	211.106	0.806	0.200	0.200	0.606
RN	0.000	0.274	0.274	0.200	0.000	0.074

⊕	MM	LOC03 - OD_CELL_2A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.054	0.054	0.200	0.200	0.000
Z	0.000	-0.740	-0.740	0.200	0.200	0.540
D	210.300	211.156	0.856	0.200	0.200	0.656
RN	0.000	0.270	0.270	0.200	0.000	0.070

⊕	MM	LOC04 - OD_CELL_2B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.075	0.075	0.200	0.200	0.000
Z	0.000	-0.747	-0.747	0.200	0.200	0.547
D	210.300	211.109	0.809	0.200	0.200	0.609
RN	0.000	0.262	0.262	0.200	0.000	0.062

⊕	MM	LOC05 - OD_CELL_3A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.004	-0.004	0.200	0.200	0.000
Z	0.000	-0.879	-0.879	0.200	0.200	0.679
D	210.300	211.209	0.909	0.200	0.200	0.709
RN	0.000	0.268	0.268	0.200	0.000	0.068

⊕	MM	LOC06 - OD_CELL_3B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.034	0.034	0.200	0.200	0.000
Z	0.000	-0.881	-0.881	0.200	0.200	0.681
D	210.300	211.144	0.844	0.200	0.200	0.644
RN	0.000	0.251	0.251	0.200	0.000	0.051

⊕	MM	LOC07 - OD_CELL_4A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.006	-0.006	0.200	0.200	0.000
Z	0.000	-0.952	-0.952	0.200	0.200	0.752
D	210.300	211.181	0.881	0.200	0.200	0.681
RN	0.000	0.269	0.269	0.200	0.000	0.069

⊕	MM	LOC08 - OD_CELL_4B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.007	0.007	0.200	0.200	0.000
Z	0.000	-0.956	-0.956	0.200	0.200	0.756
D	210.300	211.138	0.838	0.200	0.200	0.638
RN	0.000	0.220	0.220	0.200	0.000	0.020

⌖	MM	LOC09 - OD_CELL_5A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.017	-0.017	0.200	0.200	0.000
Z	0.000	-0.968	-0.968	0.200	0.200	0.768
D	210.300	211.161	0.861	0.200	0.200	0.661
RN	0.000	0.251	0.251	0.200	0.000	0.051

⌖	MM	LOC10 - OD_CELL_5B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.013	-0.013	0.200	0.200	0.000
Z	0.000	-0.971	-0.971	0.200	0.200	0.771
D	210.300	211.170	0.870	0.200	0.200	0.670
RN	0.000	0.250	0.250	0.200	0.000	0.050

⌖	MM	LOC11 - OD_CELL_6A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.053	-0.053	0.200	0.200	0.000
Z	0.000	-0.881	-0.881	0.200	0.200	0.681
D	210.300	211.139	0.839	0.200	0.200	0.639
RN	0.000	0.235	0.235	0.200	0.000	0.035

⌖	MM	LOC12 - OD_CELL_6B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.042	-0.042	0.200	0.200	0.000
Z	0.000	-0.868	-0.868	0.200	0.200	0.668
D	210.300	211.059	0.759	0.200	0.200	0.559
RN	0.000	0.252	0.252	0.200	0.000	0.052

⌖	MM	LOC13 - OD_CELL_7A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.057	-0.057	0.200	0.200	0.000
Z	0.000	-0.715	-0.715	0.200	0.200	0.515
D	210.300	211.167	0.867	0.200	0.200	0.667
RN	0.000	0.269	0.269	0.200	0.000	0.069

⌖	MM	LOC14 - OD_CELL_7B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.040	-0.040	0.200	0.200	0.000
Z	0.000	-0.691	-0.691	0.200	0.200	0.491
D	210.300	211.158	0.858	0.200	0.200	0.658
RN	0.000	0.240	0.240	0.200	0.000	0.040

⌖	MM	LOC15 - OD_CELL_8A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.038	-0.038	0.200	0.200	0.000
Z	0.000	-0.474	-0.474	0.200	0.200	0.274
D	210.300	211.183	0.883	0.200	0.200	0.683
RN	0.000	0.271	0.271	0.200	0.000	0.071

⌖	MM	LOC16 - OD_CELL_8B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.018	-0.018	0.200	0.200	0.000	
Z	0.000	-0.474	-0.474	0.200	0.200	0.274	
D	210.300	211.161	0.861	0.200	0.200	0.661	
RN	0.000	0.236	0.236	0.200	0.000	0.036	

⌖	MM	LOC17 - OD_CELL_9A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	-0.021	-0.021	0.200	0.200	0.000	
Z	0.000	-0.202	-0.202	0.200	0.200	0.002	
D	210.300	211.135	0.835	0.200	0.200	0.635	
RN	0.000	0.281	0.281	0.200	0.000	0.081	

⌖	MM	LOC18 - OD_CELL_9B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.004	0.004	0.200	0.200	0.000	
Z	0.000	-0.133	-0.133	0.200	0.200	0.000	
D	210.300	211.132	0.832	0.200	0.200	0.632	
RN	0.000	0.233	0.233	0.200	0.000	0.033	

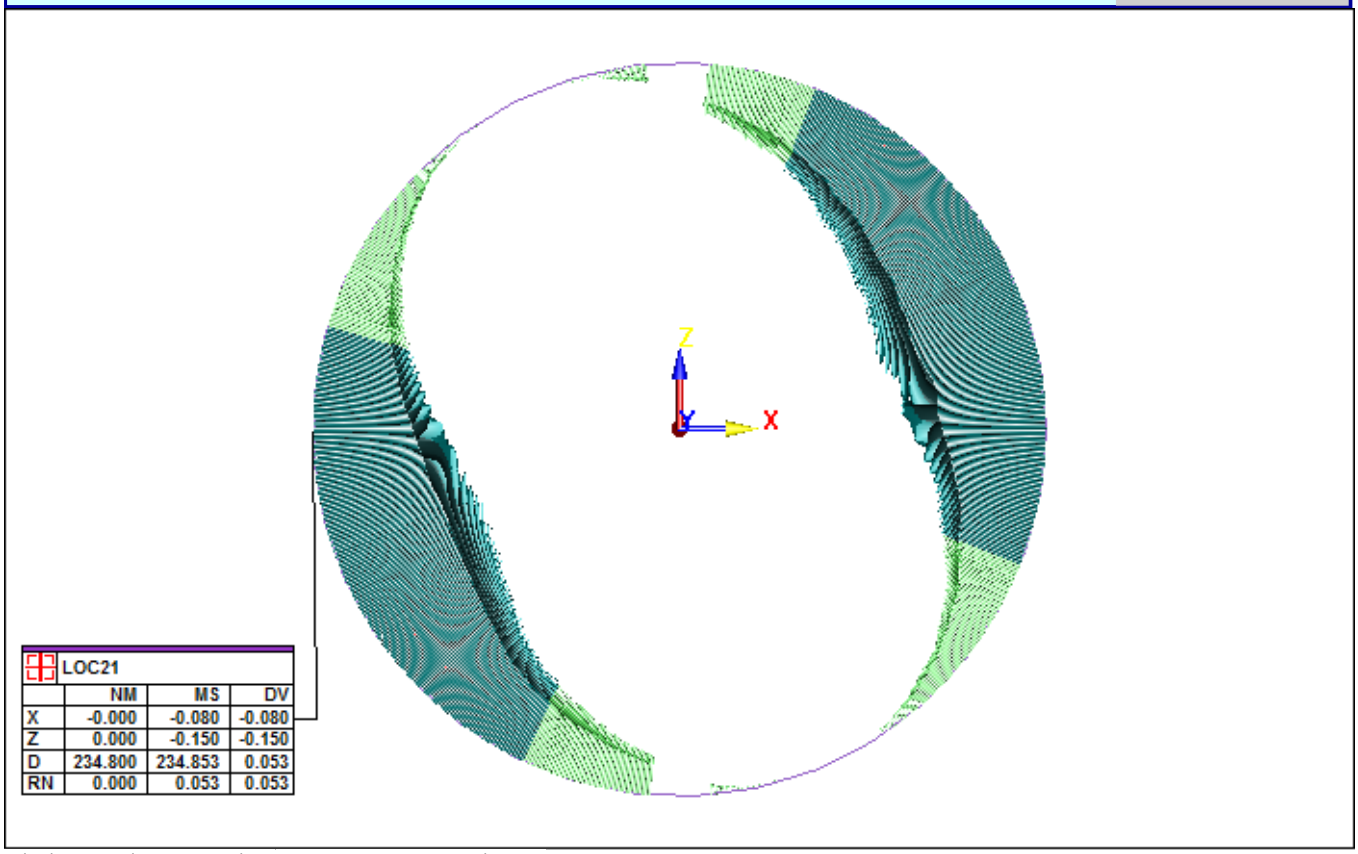
Datum Discs O.D.

⊕	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	0.020	0.020	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	110.797	-0.203	0.050	0.050	0.153
RN	0.000	0.068	0.068	0.050	0.000	0.018

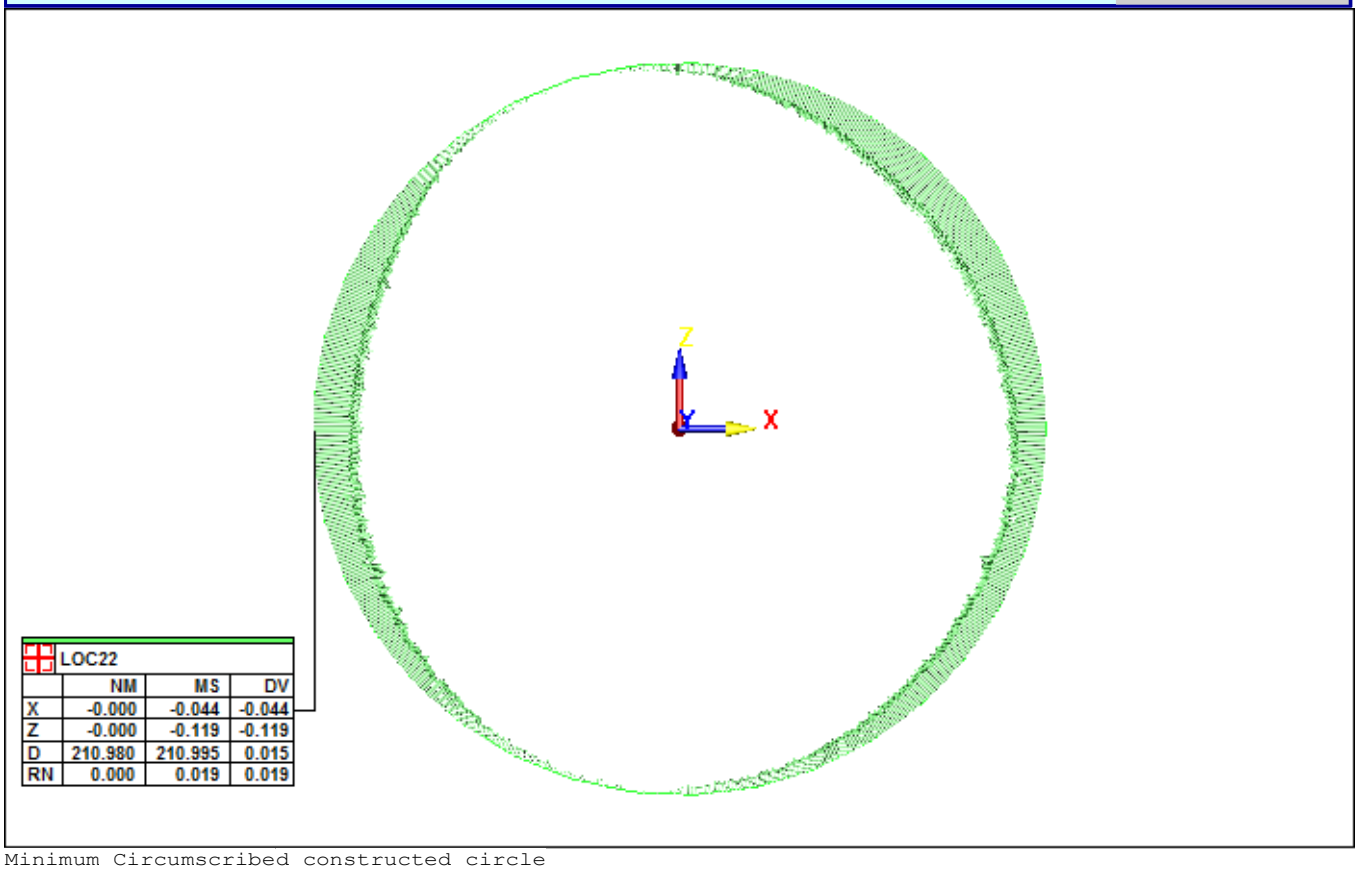
Transition Rings

⊕	MM	LOC21 - MC_TRANSITION_RING_LARGE_OD_MIN_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.080	-0.080	0.250	0.250	0.000
Z	0.000	-0.150	-0.150	0.250	0.250	0.000
D	234.800	234.853	0.053	0.250	0.250	0.000
RN	0.000	0.053	0.053	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	-0.044	-0.044	0.250	0.250	0.000
Z	0.000	-0.119	-0.119	0.250	0.250	0.000
D	210.980	210.995	0.015	0.250	0.250	0.000
RN	0.000	0.019	0.019	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	1126.150	2.036	10.000	10.000	0.000
FL	0.000	0.206	0.206	0.200	0.000	0.006

AX	I	J	K
V	0.002	1.000	0.005

⌖	MM	LOC24 - FP_TRANSITION_RING_LARGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	120.088	119.888	-0.200	10.000	10.000	0.000
FL	0.000	0.081	0.081	0.200	0.000	0.000

AX	I	J	K
V	0.001	-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	1006.262	2.236	1.000	1.000	1.236

⌖	MM	LOC25 - F_MAX_X1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	103.470	103.470	1000.000	1000.000	0.000
Y	119.726	119.975	0.249	1.000	1.000	0.000
Z	0.000	0.641	0.641	1000.000	1000.000	0.000

⌖	MM	LOC26 - F_MIN_X1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-103.502	-103.502	1000.000	1000.000	0.000
Y	119.726	119.763	0.037	1.000	1.000	0.000
Z	0.000	-0.916	-0.916	1000.000	1000.000	0.000

⌖	MM	LOC27 - F_MAX_Z1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	3.783	3.783	1000.000	1000.000	0.000
Y	119.726	120.315	0.588	1.000	1.000	0.000
Z	0.000	103.495	103.495	1000.000	1000.000	0.000

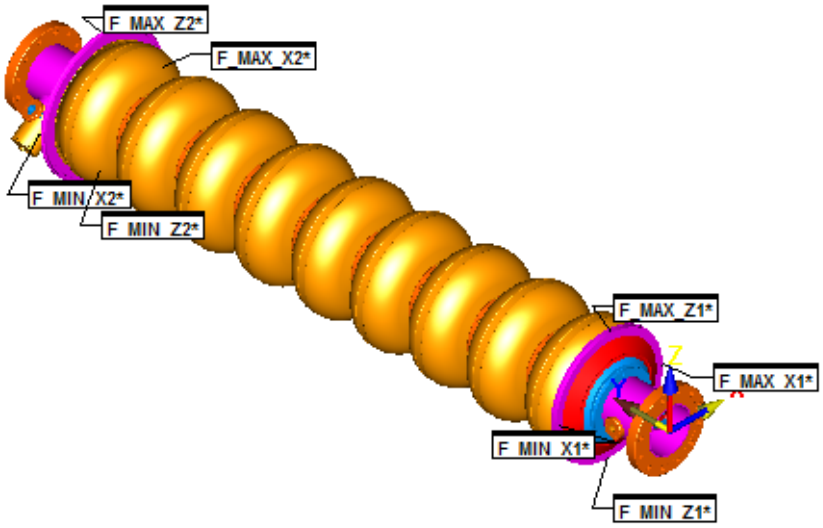
⌖	MM	LOC28 - F_MIN_Z1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-2.171	-2.171	1000.000	1000.000	0.000
Y	119.726	119.488	-0.238	1.000	1.000	0.000
Z	0.000	-103.373	-103.373	1000.000	1000.000	0.000

⌖	MM	LOC29 - F_MAX_X2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	117.900	117.900	1000.000	1000.000	0.000
Y	1123.752	1125.643	1.891	1.000	1.000	0.891
Z	0.000	-3.420	-3.420	1000.000	1000.000	0.000

⌖	MM	LOC30 - F_MIN_X2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-117.956	-117.956	1000.000	1000.000	0.000
Y	1123.752	1126.120	2.367	1.000	1.000	1.367
Z	0.000	3.363	3.363	1000.000	1000.000	0.000

⌖	MM	LOC31 - F_MAX_Z2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.973	0.973	1000.000	1000.000	0.000
Y	1123.752	1125.418	1.666	1.000	1.000	0.666
Z	0.000	117.994	117.994	1000.000	1000.000	0.000

⌖	MM	LOC32 - F_MIN_Z2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.351	0.351	1000.000	1000.000	0.000
Y	1123.752	1126.529	2.776	1.000	1.000	1.776
Z	0.000	-117.971	-117.971	1000.000	1000.000	0.000



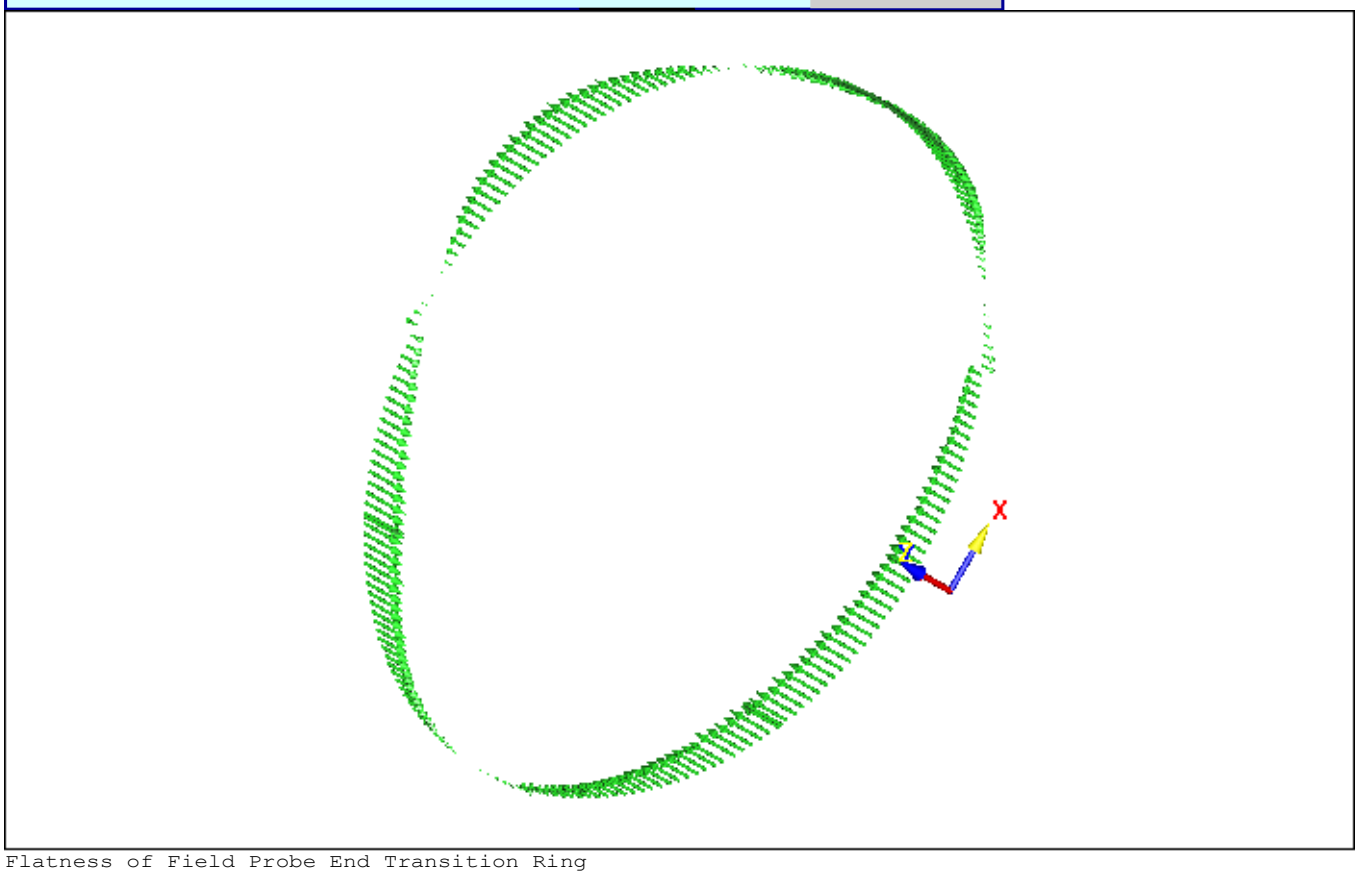
↔	MM	DIST02 - F_MAX_X1 TO F_MAX_X2 (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1004.026	1005.667	1.641	1.000	1.000	0.641

↔	MM	DIST03 - F_MAX_Z1 TO F_MAX_Z2 (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1004.026	1005.103	1.077	1.000	1.000	0.077

↔	MM	DIST04 - F_MIN_X1 TO F_MIN_X2 (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1004.026	1006.356	2.330	1.000	1.000	1.330

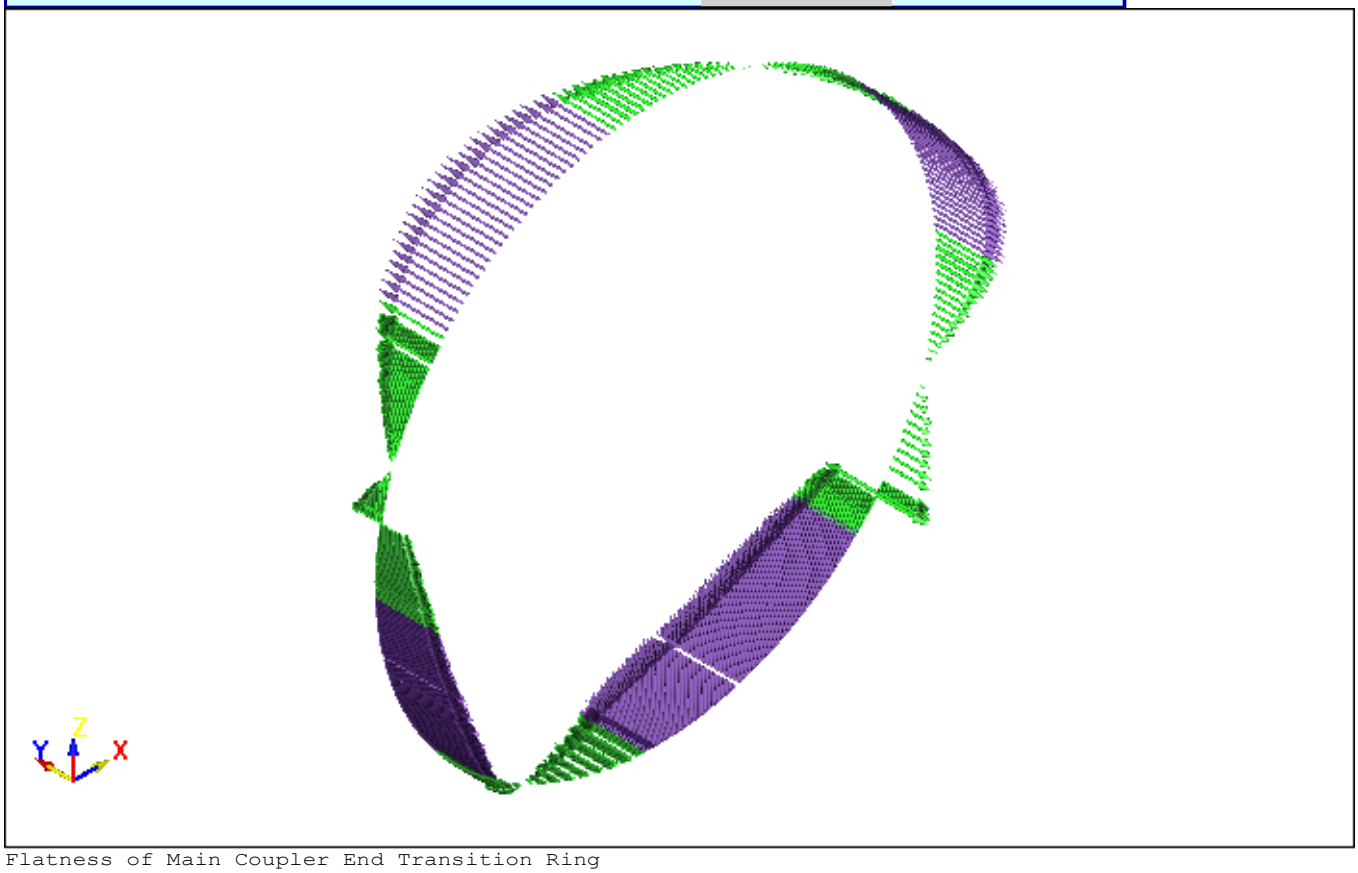
↔	MM	DIST05 - F_MIN_X1 TO F_MIN_Z2 (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1004.026	1006.765	2.739	1.000	1.000	1.739

FCFFLAT1	MM	▱ 1			
Feature	MEAS	OUTTOL	MAX	MIN	
FP_TRANSITION_RING_LARGE_PLN	0.069	0.000	0.035	-0.035	



Flatness of Field Probe End Transition Ring
x500

FCFFLAT2	MM	1				
Feature	+TOL	MEAS	OUTTOL		MAX	MIN
MC_TRANSITION_RING_LARGE_PLN	1.000	0.149	0.000		0.075	-0.075



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	0.056	0.056	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	0.254	0.054	0.148	0.106	

∠	DEG	ANGL1 - FP_END_PLN_CONSTRUCTED TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.894	-0.106	0.100	0.100	0.006

⌖	MM	LOC34 - FP_END_FLANGE_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.027	0.027	0.200	0.200	0.000
Z	0.000	0.212	0.212	0.200	0.200	0.012
D	140.000	140.047	0.047	0.300	0.300	0.000
RN	0.000	0.015	0.015	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	0.991	-0.009	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	8.733	-0.067	0.300	0.300	0.000	0.000
FP_CIR2	8.800	8.735	-0.065	0.300	0.300	0.000	0.000
FP_CIR3	8.800	8.740	-0.060	0.300	0.300	0.000	0.000
FP_CIR4	8.800	8.743	-0.057	0.300	0.300	0.000	0.000
FP_CIR5	8.800	8.725	-0.075	0.300	0.300	0.000	0.000
FP_CIR6	8.800	8.735	-0.065	0.300	0.300	0.000	0.000
FP_CIR7	8.800	8.733	-0.067	0.300	0.300	0.000	0.000
FP_CIR8	8.800	8.736	-0.064	0.300	0.300	0.000	0.000
FP_CIR9	8.800	8.743	-0.057	0.300	0.300	0.000	0.000
FP_CIR10	8.800	8.739	-0.061	0.300	0.300	0.000	0.000
FP_CIR11	8.800	8.734	-0.066	0.300	0.300	0.000	0.000
FP_CIR12	8.800	8.731	-0.069	0.300	0.300	0.000	0.000

FCFLOC1 Position	MM	⌖ | Ø.3 | C		
Feature	MEAS	OUTTOL	BONUS	
FP_CIR1	0.046	0.000	0.000	
FP_CIR2	0.039	0.000	0.000	
FP_CIR3	0.086	0.000	0.000	
FP_CIR4	0.101	0.000	0.000	

FP_CIR5	0.000	0.059	0.059	0.300		0.000	0.000
FP_CIR6	0.000	0.078	0.078	0.300		0.000	0.000
FP_CIR7	0.000	0.074	0.074	0.300		0.000	0.000
FP_CIR8	0.000	0.094	0.094	0.300		0.000	0.000
FP_CIR9	0.000	0.089	0.089	0.300		0.000	0.000
FP_CIR10	0.000	0.088	0.088	0.300		0.000	0.000
FP_CIR11	0.000	0.101	0.101	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	0.016	0.000	0.002	0.000	0.093	0.000

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

Feature	AX	NOMINAL	MEAS	DEV
FP_CIR1	PR	60.000	59.977	-0.023
	PA	75.000	74.998	-0.002
FP_CIR2	PR	60.000	59.993	-0.006
	PA	45.000	45.017	0.017
FP_CIR3	PR	60.000	59.958	-0.042
	PA	15.000	15.008	0.008
FP_CIR4	PR	60.000	59.951	-0.049
	PA	-15.000	-14.988	0.013
FP_CIR5	PR	60.000	59.972	-0.028
	PA	-45.000	-44.992	0.008
FP_CIR6	PR	60.000	59.978	-0.022
	PA	-75.000	-74.969	0.031
FP_CIR7	PR	60.000	59.980	-0.020
	PA	-105.000	-104.970	0.029
FP_CIR8	PR	60.000	59.958	-0.043
	PA	-135.000	-134.981	0.018
FP_CIR9	PR	60.000	59.960	-0.040
	PA	-164.999	-164.981	0.019
FP_CIR10	PR	60.000	59.961	-0.039
	PA	165.001	165.019	0.019
FP_CIR11	PR	60.000	59.951	-0.049
	PA	135.000	134.988	-0.013
FP_CIR12	PR	60.000	59.965	-0.034
	PA	105.000	104.997	-0.003

	MM	LOC35 - MC_END_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1247.400	1248.897	1.497	3.000	3.000	0.000
FL	0.000	0.036	0.036	0.200	0.000	0.000

AX	I	J	K
V	0.000	1.000	0.003

FCFPERP3	MM	⊥ .2 A				
Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_END_FLANGE_PLN	0.000	0.390	0.390	0.200	0.000	0.190

∡	DEG	ANGL2 - MC_END_FLANGE_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.837	-0.163	0.100	0.100	0.063

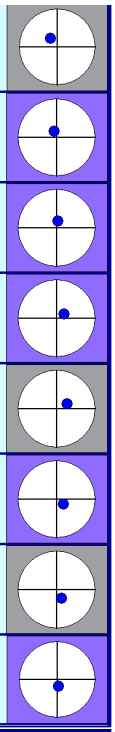
	MM	LOC36 - MC_END_FLANGE_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.034	-0.034	0.200	0.200	0.000
Z	0.000	0.331	0.331	0.200	0.200	0.131
D	140.000	140.025	0.025	0.300	0.300	0.000
RN	0.000	0.019	0.019	0.200	0.000	0.000

↔	MM	DIST07 - MC_END_FLANGE_PLN TO MC_END_FLANGE_PLN_SS (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	0.937	-0.063	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	8.741	-0.059	0.300	0.300	0.000	0.000
MC_CIR2	8.800	8.743	-0.057	0.300	0.300	0.000	0.000
MC_CIR3	8.800	8.728	-0.072	0.300	0.300	0.000	0.000
MC_CIR4	8.800	8.740	-0.060	0.300	0.300	0.000	0.000
MC_CIR5	8.800	8.737	-0.063	0.300	0.300	0.000	0.000
MC_CIR6	8.800	8.741	-0.059	0.300	0.300	0.000	0.000
MC_CIR7	8.800	8.749	-0.051	0.300	0.300	0.000	0.000
MC_CIR8	8.800	8.742	-0.058	0.300	0.300	0.000	0.000
MC_CIR9	8.800	8.758	-0.042	0.300	0.300	0.000	0.000
MC_CIR10	8.800	8.754	-0.046	0.300	0.300	0.000	0.000
MC_CIR11	8.800	8.739	-0.061	0.300	0.300	0.000	0.000
MC_CIR12	8.800	8.735	-0.065	0.300	0.300	0.000	0.000

FCFLOC2 Position	MM	⌖ Ø.3 E		
Feature	MEAS	OUTTOL	BONUS	
MC_CIR1	0.089	0.000	0.000	
MC_CIR2	0.084	0.000	0.000	
MC_CIR3	0.061	0.000	0.000	
MC_CIR4	0.020	0.000	0.000	

MC_CIR5	0.000	0.089	0.089	0.300		0.000	0.000
MC_CIR6	0.000	0.054	0.054	0.300		0.000	0.000
MC_CIR7	0.000	0.052	0.052	0.300		0.000	0.000
MC_CIR8	0.000	0.066	0.066	0.300		0.000	0.000
MC_CIR9	0.000	0.089	0.089	0.300		0.000	0.000
MC_CIR10	0.000	0.065	0.065	0.300		0.000	0.000
MC_CIR11	0.000	0.076	0.076	0.300		0.000	0.000
MC_CIR12	0.000	0.052	0.052	0.300		0.000	0.000



FCFLOC2 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	0.044	0.000	-3.528	0.000	0.093	0.000

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

Feature	AX	NOMINAL	MEAS	DEV
MC_CIR1	PR	60.000	59.956	-0.044
	PA	75.001	75.005	0.004
MC_CIR2	PR	60.000	59.958	-0.042
	PA	45.001	44.998	-0.003
MC_CIR3	PR	60.000	59.969	-0.031
	PA	15.001	14.997	-0.003
MC_CIR4	PR	60.000	59.991	-0.009
	PA	-15.000	-15.004	-0.004
MC_CIR5	PR	60.000	59.955	-0.044
	PA	-45.000	-44.995	0.004
MC_CIR6	PR	60.000	59.973	-0.027
	PA	-75.000	-75.004	-0.004
MC_CIR7	PR	60.000	59.974	-0.026
	PA	-105.000	-105.002	-0.002
MC_CIR8	PR	60.000	59.968	-0.032
	PA	-135.000	-134.993	0.007
MC_CIR9	PR	60.000	59.956	-0.044
	PA	-165.000	-165.009	-0.008
MC_CIR10	PR	60.000	59.970	-0.030
	PA	165.000	165.012	0.012
MC_CIR11	PR	60.000	59.964	-0.037
	PA	135.000	135.009	0.009
MC_CIR12	PR	60.000	59.974	-0.026
	PA	105.000	105.001	0.001

Datum Disc planes

Datum Disc Field Probe End

⌖	MM	LOC37 - FP_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	92.842	92.670	-0.172	0.200	0.200	0.000
FL	0.000	0.091	0.091	0.200	0.000	0.000

AX	I	J	K
V	0.001	-1.000	0.007

FCFPERP4	MM	⊥ .2 A
Feature	MEAS	OUTTOL
FP_DATUM_DISC_PLN	0.756	0.556

∡	DEG	ANGL3 - FP_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	90.393	0.393	0.100	0.100	0.293

Datum Disc Main Coupler End

⌖	MM	LOC38 - MC_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1153.900	1155.164	1.265	0.200	0.200	1.065
FL	0.000	0.110	0.110	0.200	0.000	0.000

AX	I	J	K
V	0.003	1.000	0.004

FCFPERP5	MM	⊥ .2 A
Feature	MEAS	OUTTOL
MC_DATUM_DISC_PLN	0.520	0.320

∡	DEG	ANGL4 - MC_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.739	-0.261	0.100	0.100	0.161

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	1062.494	1.437	0.200	0.200	1.237

↔	MM	DIST09 - MC_DATUM_DISC_PLN TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	93.500	93.732	0.232	0.200	0.200	0.032

Field Probe Flange

⌖	MM	LOC39 - FP_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-53.800	-54.294	-0.494	0.200	0.200	0.294
FL	0.000	0.003	0.003	0.200	0.000	0.000

AX	I	J	K
V	-1.000	-0.001	0.001

FCFPARL1	MM	// .2 X-
Feature	MEAS	OUTTOL
FP_FLANGE_PLN	0.046	0.000

∡	DEG	ANGL5 - FP_FLANGE_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.095	-0.095	0.100	0.100	0.000

⌖	MM	LOC40 - FP_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	60.600	60.514	-0.086	0.200	0.200	0.000
Z	0.000	-0.248	-0.248	0.200	0.200	0.048
D	33.800	33.851	0.051	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	0.556	0.056	0.200	0.200	0.000

Main Coupler Flange

⌖	MM	LOC41 - MC_NW40_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	88.000	87.944	-0.056	0.200	0.200	0.000
FL	0.000	0.011	0.011	0.200	0.000	0.000

AX	I	J	K
V	1.000	-0.005	0.000

FCFPARL2	MM	// | .2 | X-				
Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_NW40_PLN	0.000	0.357	0.357	0.200	0.000	0.157

∡	DEG	ANGL6 - MC_NW40_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.310	-0.310	0.100	0.100	0.210

↔	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	1188.063	1.263	0.200	0.200	1.063
Z	0.000	0.022	0.022	0.200	0.200	0.000
D	76.000	76.040	0.040	0.200	0.200	0.000
RN	0.000	0.010	0.010	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	60.833	0.233	0.200	0.200	0.033

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	22.392	-0.108	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	6.775	0.075	0.300	0.300	0.000
MC_NW40_BH_2	6.700	6.794	0.094	0.300	0.300	0.000
MC_NW40_BH_3	6.700	6.772	0.072	0.300	0.300	0.000
MC_NW40_BH_4	6.700	6.778	0.078	0.300	0.300	0.000
MC_NW40_BH_5	6.700	6.779	0.079	0.300	0.300	0.000
MC_NW40_BH_6	6.700	6.780	0.080	0.300	0.300	0.000
MC_NW40_BH_7	6.700	6.836	0.136	0.300	0.300	0.000
MC_NW40_BH_8	6.700	6.799	0.099	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	0.135	0.135	0.300		0.000
MC_NW40_BH_2	0.000	0.146	0.146	0.300		0.000
MC_NW40_BH_3	0.000	0.140	0.140	0.300		0.000
MC_NW40_BH_4	0.000	0.091	0.091	0.300		0.000
MC_NW40_BH_5	0.000	0.141	0.141	0.300		0.000
MC_NW40_BH_6	0.000	0.146	0.146	0.300		0.000
MC_NW40_BH_7	0.000	0.146	0.146	0.300		0.000
MC_NW40_BH_8	0.000	0.082	0.082	0.300		0.000

FCFLOC3 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	0.000	1.310	-3.513	-0.168	0.000	0.000

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

Feature	AX	NOMINAL	MEAS	DEV
MC_NW40_BH_1	PR	1175.016	1175.084	0.068
	PA	1.430	1.430	0.000
MC_NW40_BH_2	PR	1157.531	1157.601	0.070
	PA	0.601	0.600	-0.001
MC_NW40_BH_3	PR	1157.531	1157.576	0.045
	PA	-0.601	-0.598	0.003
MC_NW40_BH_4	PR	1175.016	1175.039	0.023
	PA	-1.430	-1.429	0.002
MC_NW40_BH_5	PR	1199.309	1199.268	-0.041
	PA	-1.402	-1.399	0.003
MC_NW40_BH_6	PR	1216.194	1216.138	-0.056
	PA	-0.572	-0.570	0.002
MC_NW40_BH_7	PR	1216.194	1216.137	-0.057
	PA	0.572	0.570	-0.002

MC_NW40_BH_8	PR	1199.309	1199.319	0.010
	PA	1.402	1.400	-0.002

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	-0.561	0.253	0.788

∡	DEG	ANGL7 - MC_HOM_FLANGE_PLN TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.473	0.473	0.500	0.500	0.000

⊕	MM	LOC44 - MC_HOM_FLANGE

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-71.549	-71.396	0.152	10.000	10.000	0.000
Y	1190.022	1191.467	1.446	10.000	10.000	0.000
Z	-9.573	-10.327	-0.754	10.000	10.000	0.000
D	33.800	33.845	0.045	0.150	0.150	0.000
RN	0.000	0.006	0.006	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	0.556	0.055	0.050	0.050	0.005

Main Coupler HOM

⊕	MM	LOC45 - MC_FORMTEIL_CYL

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-88.468	-85.593	2.876	100.000	100.000	0.000
Y	1186.800	1188.399	1.599	0.200	0.200	1.399
Z	-61.946	-60.941	1.005	100.000	100.000	0.000
D	44.000	43.997	-0.003	0.000	0.100	0.000
RN	0.000	0.144	0.144	0.100	0.000	0.044

AX	I	J	K
V	0.813	0.003	0.582

↔	MM	DIST14 - MC_FORMTEIL_CYL TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.497	-0.103	0.200	0.200	0.000

∡	DEG	ANGL8 - MC_FORMTEIL_CYL TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.562	0.562	0.500	0.500	0.062

∡	DEG	ANGL11 - MC_FORMTEIL_CYL TO Y_AXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.818	-0.182	0.500	0.500	0.000

⊕	MM	LOC46 - MC_FORMTEIL_BUTTON_PNT

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	116.068	0.068	0.200	0.200	0.000

⊕	MM	LOC47 - MC_FORMTEIL_COVER_PLN

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	111.000	110.992	-0.008	0.200	0.200	0.000
FL	0.000	0.022	0.022	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	0.003	0.003	0.200	0.000	0.000

AX	I	J	K
V	-0.476	-0.264	-0.839

	DEG	ANGL9 - FP_HOM_FLANGE_PLN TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	29.553	-0.447	0.500	0.500	0.000

	MM	LOC49 - FP_HOM_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	38.431	38.860	0.429	10.000	10.000	0.000
Y	57.119	56.780	-0.339	10.000	10.000	0.000
Z	-61.636	-61.297	0.339	10.000	10.000	0.000
D	33.800	33.811	0.011	0.150	0.150	0.000
RN	0.000	0.007	0.007	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	0.526	0.027	0.050	0.050	0.000

Field Probe HOM

	MM	LOC50 - FP_FORMTEIL_CYL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	93.531	91.365	-2.165	100.000	100.000	0.000
Y	60.600	60.491	-0.109	0.200	0.200	0.000
Z	-54.000	-51.700	2.300	100.000	100.000	0.000
D	44.000	43.907	-0.093	0.000	0.100	0.000
RN	0.000	0.037	0.037	0.100	0.000	0.000

AX	I	J	K
V	-0.870	-0.001	0.494

	MM	DIST16 - FP_FORMTEIL_CYL TO FP_END_PLN_CONSTRUCTED (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.490	-0.110	0.200	0.200	0.000

	DEG	ANGL10 - FP_FORMTEIL_CYL TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	29.594	-0.406	0.500	0.500	0.000

	DEG	ANGL12 - FP_FORMTEIL_CYL TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.964	-0.036	0.500	0.500	0.000

	MM	LOC51 - FP_FORMTEIL_BUTTON_PNT				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	115.928	-0.072	0.200	0.200	0.000

	MM	LOC52 - FP_FORMTEIL_COVER_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	111.000	110.911	-0.089	0.200	0.200	0.000
FL	0.000	0.008	0.008	0.200	0.000	0.000

	MM	LOC53 - PNT_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-56.665	-56.602	0.062	0.200	0.200	0.000
Y	1183.070	1184.563	1.493	3.000	3.000	0.000
Z	-31.531	-31.693	-0.163	0.200	0.200	0.000
T	0.000	0.224	0.224	0.200	0.200	0.024

	MM	LOC54 - PLN_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-55.776	-55.720	0.056	0.200	0.200	0.000
Y	1184.500	1185.962	1.462	3.000	3.000	0.000
Z	-31.376	-31.523	-0.147	0.200	0.200	0.000
T	0.000	0.232	0.232	0.200	0.200	0.032
FL	0.000	0.001	0.001	0.200	0.000	0.000

AX	I	J	K
V	-0.562	0.260	0.786

	MM	DIST17 - PNT_MC_FORMTEIL TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.400	28.432	0.032	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	28.439	0.039	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	0.405	0.405	1.000	1.000	0.000