pc-dmis	PART NAME : 440004A	April 21, 2014	11:29
	REV NUMBER :	SER NUMBER :	STATS COUNT : 1

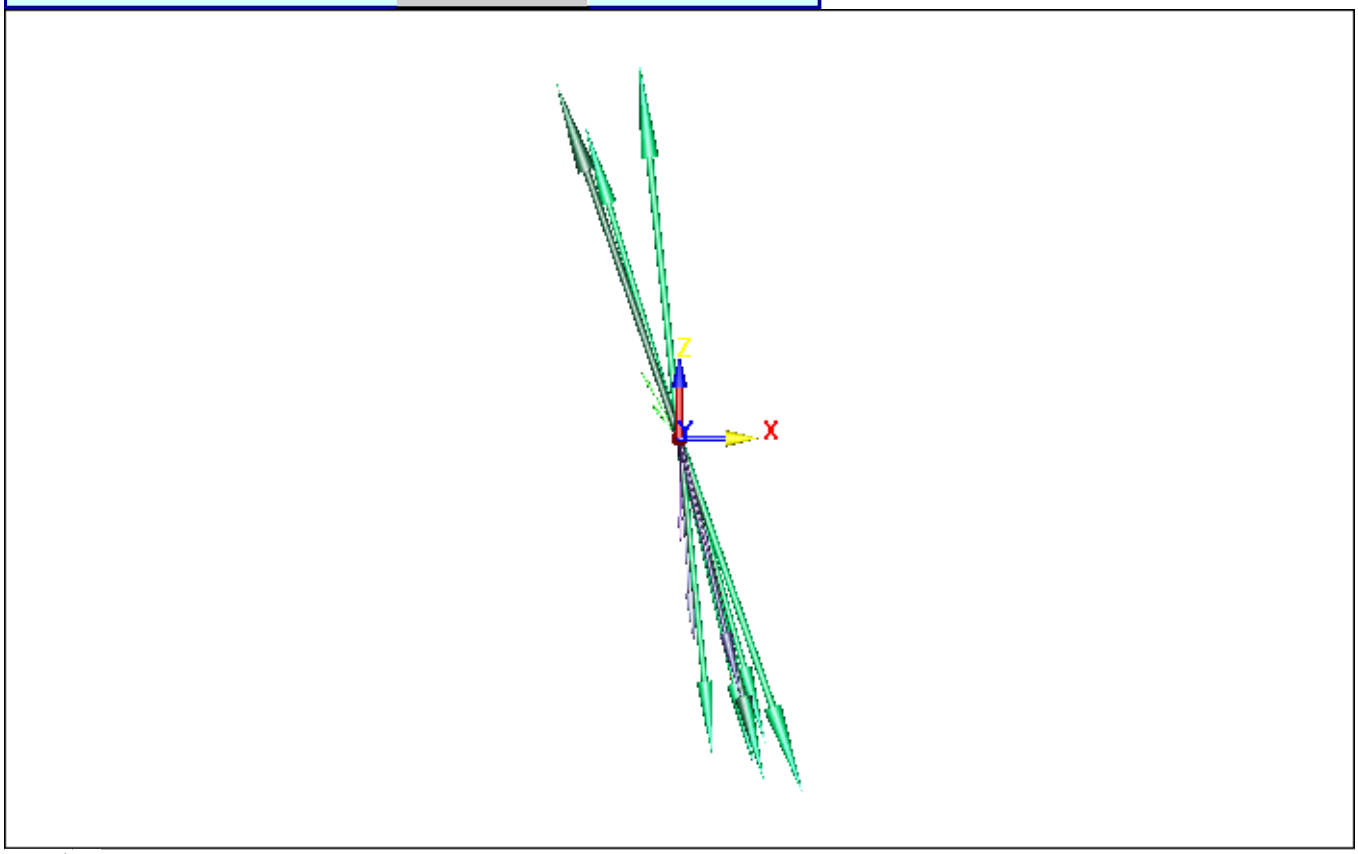
Part Number: 440004-A
SRF 1.3 GHz Superconducting R.F. Cavity

Sample Number : TB9AES030 RF96753
Inspected by : Ted Beale/Robert Riley
Measurement Date : Apr/21/2014 09:18

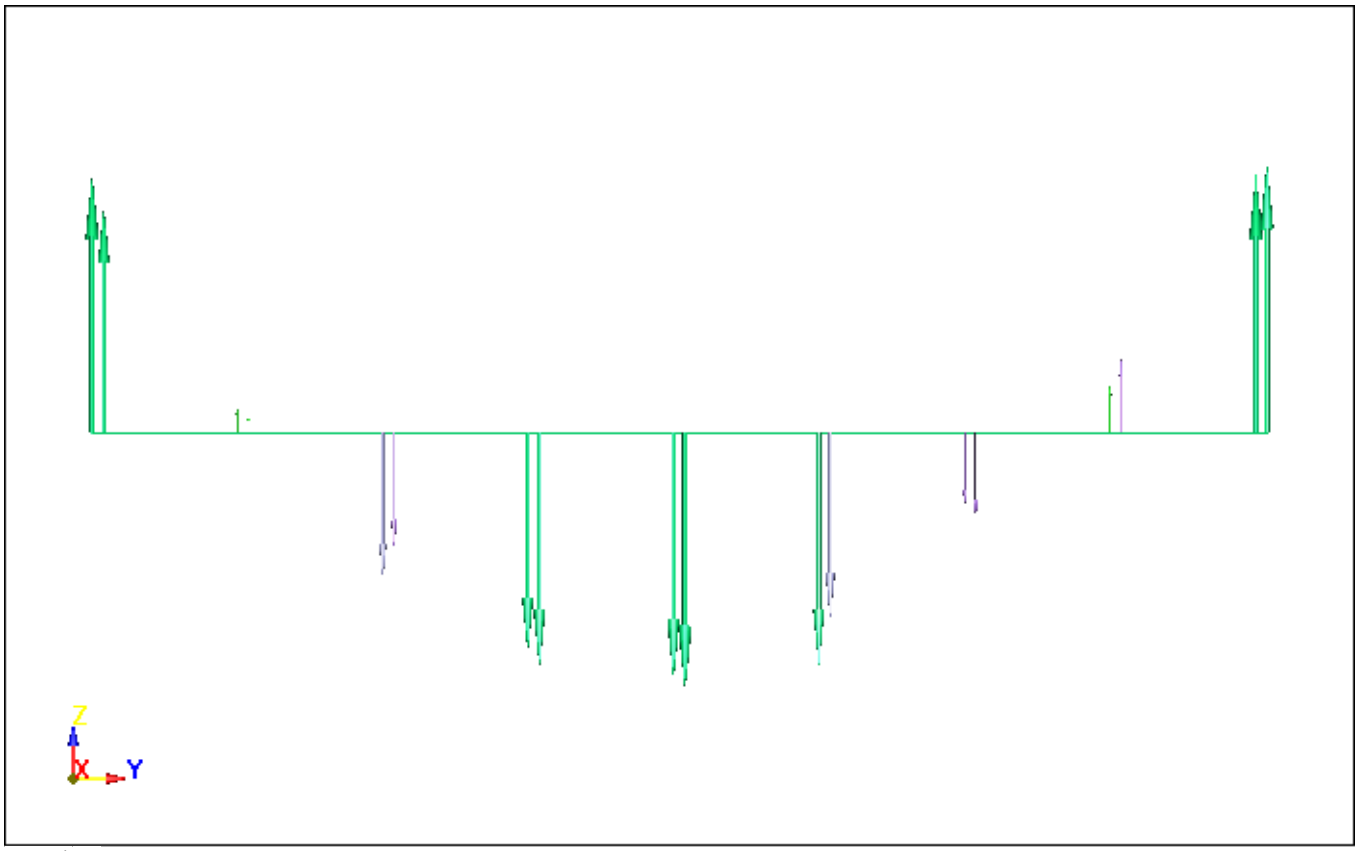
Straightness of measured half-cells

FCFSTRA1	MM	1

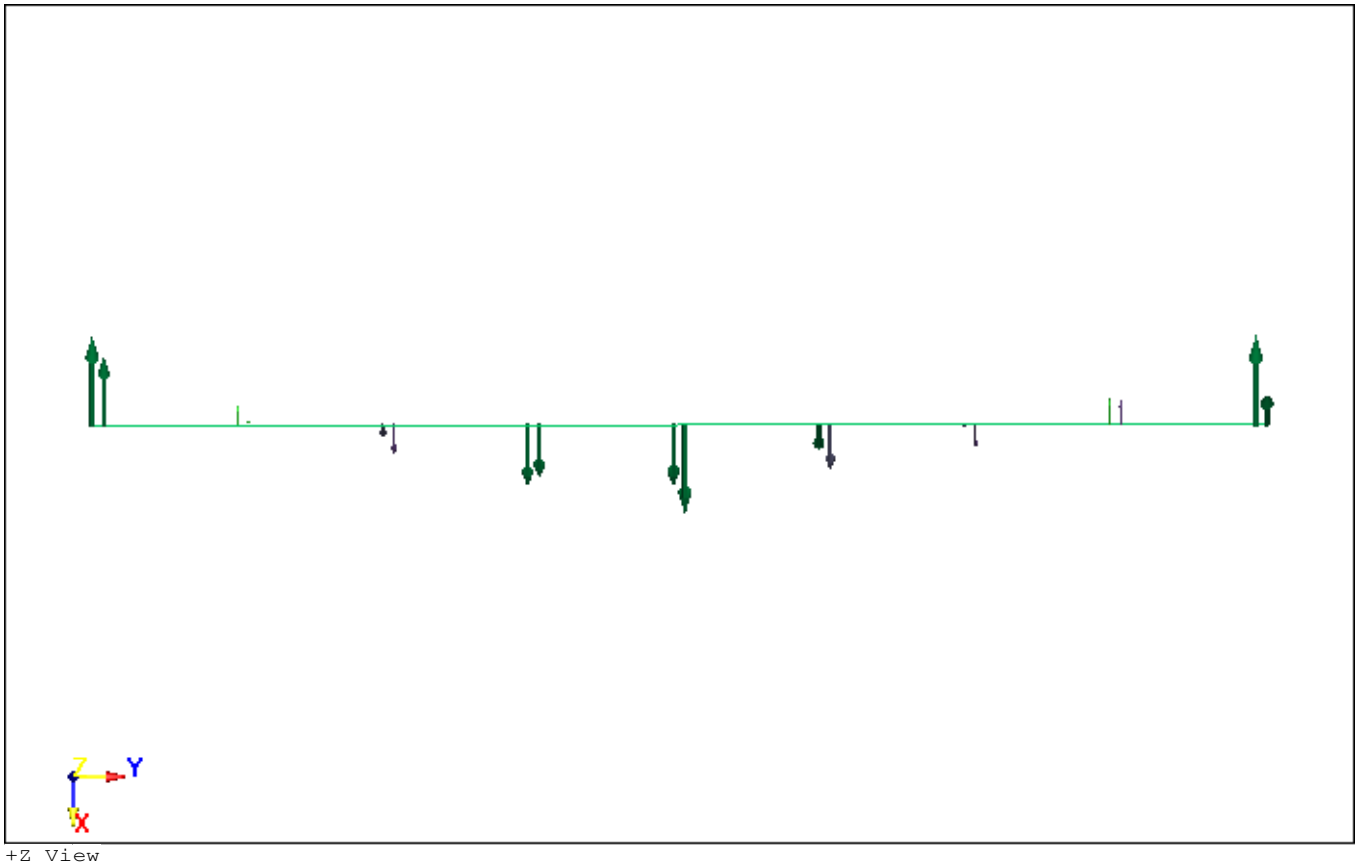
Feature	MEAS	OUTTOL		MAX	MIN
LINE_CELL_ODS	0.436	0.000		0.218	-0.218



-Y View
x1000



+X View
x1000



+Z View
x1000

⊕	MM	LOC01 - OD_CELL_1A					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
X	0.000	0.056	0.056	0.200	0.200	0.000	
Z	0.000	-0.066	-0.066	0.200	0.200	0.000	
D	210.300	211.250	0.950	0.200	0.200	0.750	
RN	0.000	0.296	0.296	0.200	0.000	0.096	

⌖	MM	LOC02 - OD_CELL_1B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.072	0.072	0.200	0.200	0.000
Z	0.000	-0.092	-0.092	0.200	0.200	0.000
D	210.300	211.153	0.853	0.200	0.200	0.653
RN	0.000	0.259	0.259	0.200	0.000	0.059

⌖	MM	LOC03 - OD_CELL_2A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.100	0.100	0.200	0.200	0.000
Z	0.000	-0.252	-0.252	0.200	0.200	0.052
D	210.300	211.161	0.861	0.200	0.200	0.661
RN	0.000	0.249	0.249	0.200	0.000	0.049

⌖	MM	LOC04 - OD_CELL_2B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.112	0.112	0.200	0.200	0.000
Z	0.000	-0.259	-0.259	0.200	0.200	0.059
D	210.300	211.124	0.824	0.200	0.200	0.624
RN	0.000	0.196	0.196	0.200	0.000	0.000

⌖	MM	LOC05 - OD_CELL_3A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.113	0.113	0.200	0.200	0.000
Z	0.000	-0.391	-0.391	0.200	0.200	0.191
D	210.300	211.160	0.860	0.200	0.200	0.660
RN	0.000	0.275	0.275	0.200	0.000	0.075

⌖	MM	LOC06 - OD_CELL_3B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.127	0.127	0.200	0.200	0.000
Z	0.000	-0.365	-0.365	0.200	0.200	0.165
D	210.300	211.147	0.847	0.200	0.200	0.647
RN	0.000	0.269	0.269	0.200	0.000	0.069

⌖	MM	LOC07 - OD_CELL_4A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.142	0.142	0.200	0.200	0.000
Z	0.000	-0.449	-0.449	0.200	0.200	0.249
D	210.300	211.158	0.858	0.200	0.200	0.658
RN	0.000	0.274	0.274	0.200	0.000	0.074

⌖	MM	LOC08 - OD_CELL_4B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.135	0.135	0.200	0.200	0.000
Z	0.000	-0.461	-0.461	0.200	0.200	0.261
D	210.300	211.108	0.808	0.200	0.200	0.608
RN	0.000	0.251	0.251	0.200	0.000	0.051

⌖	MM	LOC09 - OD_CELL_5A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.130	0.130	0.200	0.200	0.000
Z	0.000	-0.471	-0.471	0.200	0.200	0.271
D	210.300	211.201	0.901	0.200	0.200	0.701
RN	0.000	0.229	0.229	0.200	0.000	0.029

⌖	MM	LOC10 - OD_CELL_5B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.152	0.152	0.200	0.200	0.000
Z	0.000	-0.479	-0.479	0.200	0.200	0.279
D	210.300	211.154	0.854	0.200	0.200	0.654
RN	0.000	0.236	0.236	0.200	0.000	0.036

⌖	MM	LOC11 - OD_CELL_6A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.090	0.090	0.200	0.200	0.000
Z	0.000	-0.460	-0.460	0.200	0.200	0.260
D	210.300	211.121	0.821	0.200	0.200	0.621
RN	0.000	0.291	0.291	0.200	0.000	0.091

⌖	MM	LOC12 - OD_CELL_6B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.105	0.105	0.200	0.200	0.000
Z	0.000	-0.423	-0.423	0.200	0.200	0.223
D	210.300	211.054	0.754	0.200	0.200	0.554
RN	0.000	0.206	0.206	0.200	0.000	0.006

⌖	MM	LOC13 - OD_CELL_7A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.059	0.059	0.200	0.200	0.000
Z	0.000	-0.335	-0.335	0.200	0.200	0.135
D	210.300	211.172	0.872	0.200	0.200	0.672
RN	0.000	0.262	0.262	0.200	0.000	0.062

⌖	MM	LOC14 - OD_CELL_7B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.076	0.076	0.200	0.200	0.000
Z	0.000	-0.345	-0.345	0.200	0.200	0.145
D	210.300	211.135	0.835	0.200	0.200	0.635
RN	0.000	0.264	0.264	0.200	0.000	0.064

⌖	MM	LOC15 - OD_CELL_8A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.025	0.025	0.200	0.200	0.000
Z	0.000	-0.235	-0.235	0.200	0.200	0.035
D	210.300	211.158	0.858	0.200	0.200	0.658
RN	0.000	0.245	0.245	0.200	0.000	0.045

⌖	MM	LOC16 - OD_CELL_8B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.026	0.026	0.200	0.200	0.000
Z	0.000	-0.215	-0.215	0.200	0.200	0.015
D	210.300	211.133	0.833	0.200	0.200	0.633
RN	0.000	0.231	0.231	0.200	0.000	0.031

⌖	MM	LOC17 - OD_CELL_9A				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.036	-0.036	0.200	0.200	0.000
Z	0.000	-0.069	-0.069	0.200	0.200	0.000
D	210.300	211.172	0.872	0.200	0.200	0.672
RN	0.000	0.269	0.269	0.200	0.000	0.069

⌖	MM	LOC18 - OD_CELL_9B				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	0.012	0.012	0.200	0.200	0.000
Z	0.000	-0.059	-0.059	0.200	0.200	0.000
D	210.300	211.077	0.777	0.200	0.200	0.577
RN	0.000	0.227	0.227	0.200	0.000	0.027

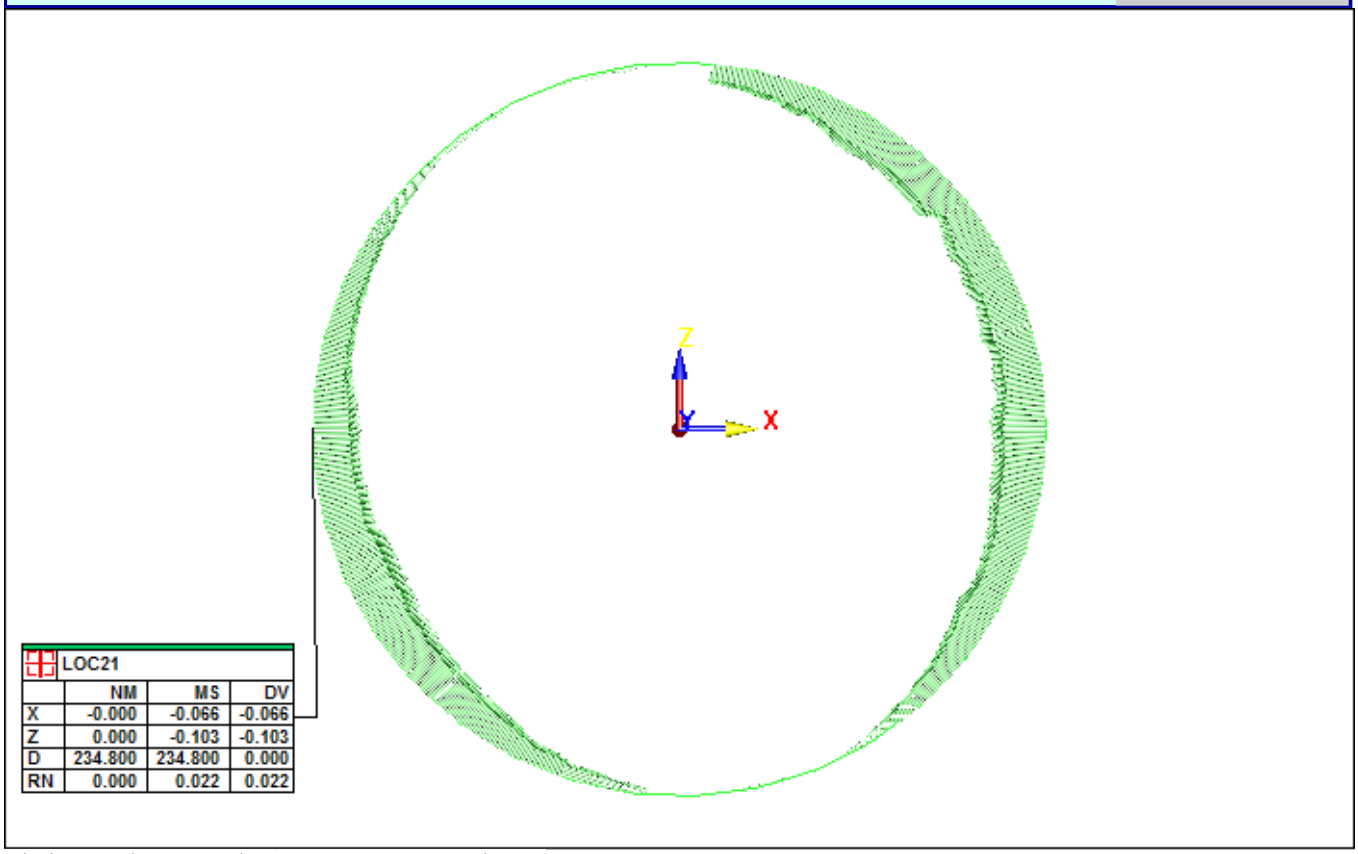
Datum Discs O.D.

⌖	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	110.852	-0.148	0.050	0.050	0.098
RN	0.000	0.030	0.030	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	110.829	-0.171	0.050	0.050	0.121
RN	0.000	0.038	0.038	0.050	0.000	0.000

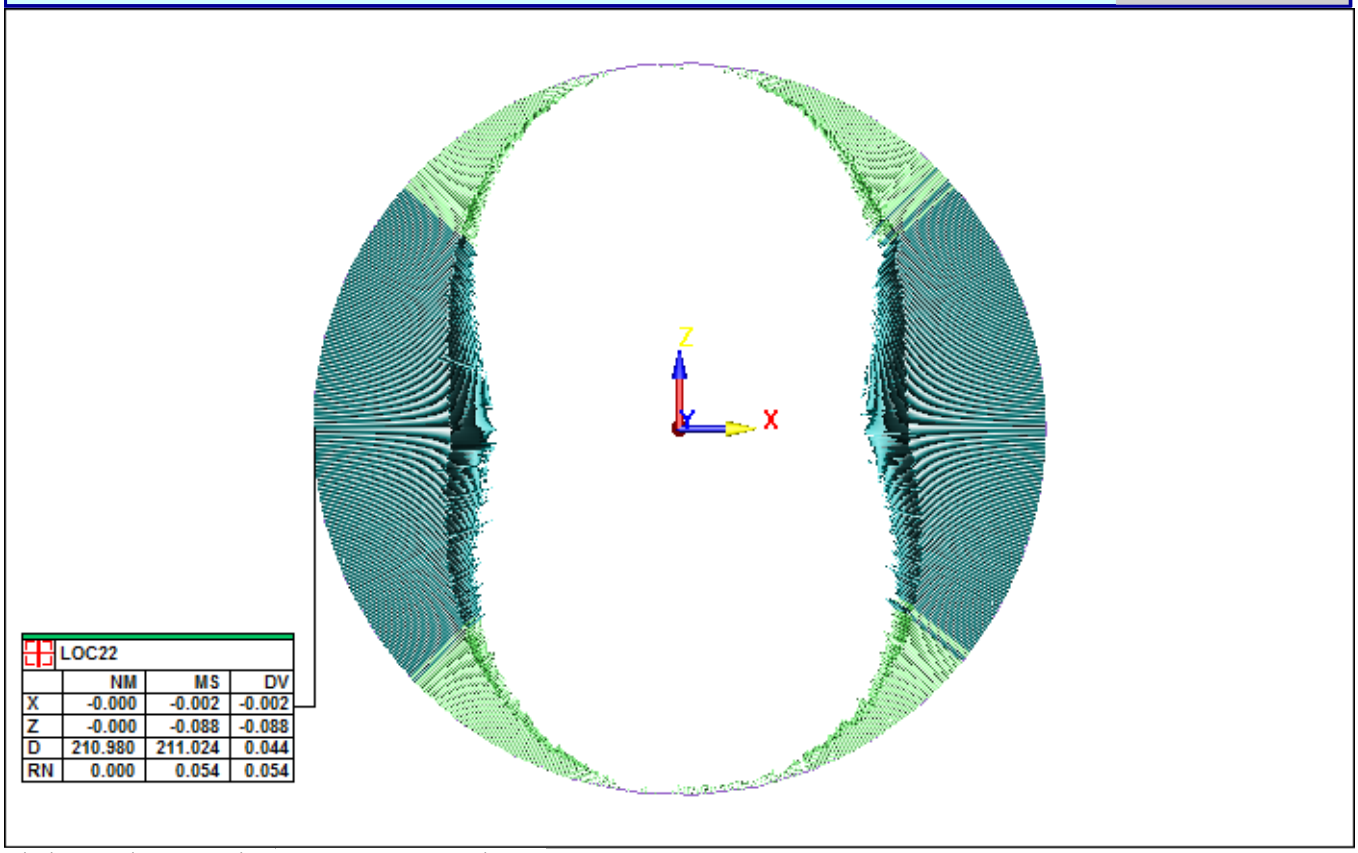
Transition Rings

⌖	MM	LOC21 - MC_TRANSITION_RING_LARGE_OD_MIN_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.066	-0.066	0.250	0.250	0.000
Z	0.000	-0.103	-0.103	0.250	0.250	0.000
D	234.800	234.800	0.000	0.250	0.250	0.000
RN	0.000	0.022	0.022	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	-0.002	-0.002	0.250	0.250	0.000
Z	0.000	-0.088	-0.088	0.250	0.250	0.000
D	210.980	211.024	0.044	0.250	0.250	0.000
RN	0.000	0.054	0.054	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	1126.580	2.466	10.000	10.000	0.000
FL	0.000	0.064	0.064	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	119.858	-0.230	10.000	10.000	0.000
FL	0.000	0.188	0.188	0.200	0.000	0.000

AX	I	J	K
V	0.000	-1.000	0.003

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	1006.721	2.695	1.000	1.000	1.695

⌖	MM	LOC25 - F_MAX_X1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	103.469	103.469	1000.000	1000.000	0.000
Y	119.726	119.995	0.269	1.000	1.000	0.000
Z	0.000	-0.809	-0.809	1000.000	1000.000	0.000

⌖	MM	LOC26 - F_MIN_X1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-103.510	-103.510	1000.000	1000.000	0.000
Y	119.726	119.956	0.230	1.000	1.000	0.000
Z	0.000	-0.042	-0.042	1000.000	1000.000	0.000

⌖	MM	LOC27 - F_MAX_Z1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-3.793	-3.793	1000.000	1000.000	0.000
Y	119.726	120.147	0.421	1.000	1.000	0.000
Z	0.000	103.440	103.440	1000.000	1000.000	0.000

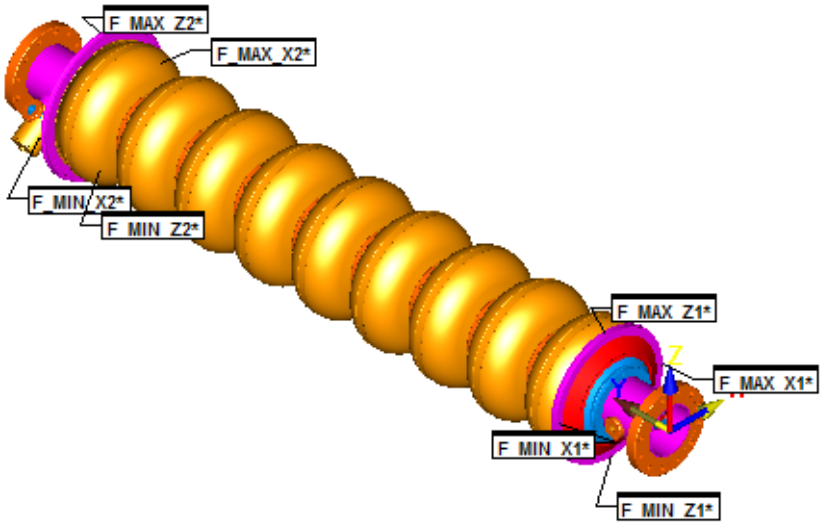
⌖	MM	LOC28 - F_MIN_Z1				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	2.017	2.017	1000.000	1000.000	0.000
Y	119.726	119.507	-0.219	1.000	1.000	0.000
Z	0.000	-103.448	-103.448	1000.000	1000.000	0.000

⌖	MM	LOC29 - F_MAX_X2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	117.897	117.897	1000.000	1000.000	0.000
Y	1123.752	1126.268	2.516	1.000	1.000	1.516
Z	0.000	3.499	3.499	1000.000	1000.000	0.000

⌖	MM	LOC30 - F_MIN_X2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-117.954	-117.954	1000.000	1000.000	0.000
Y	1123.752	1126.741	2.989	1.000	1.000	1.989
Z	0.000	-3.924	-3.924	1000.000	1000.000	0.000

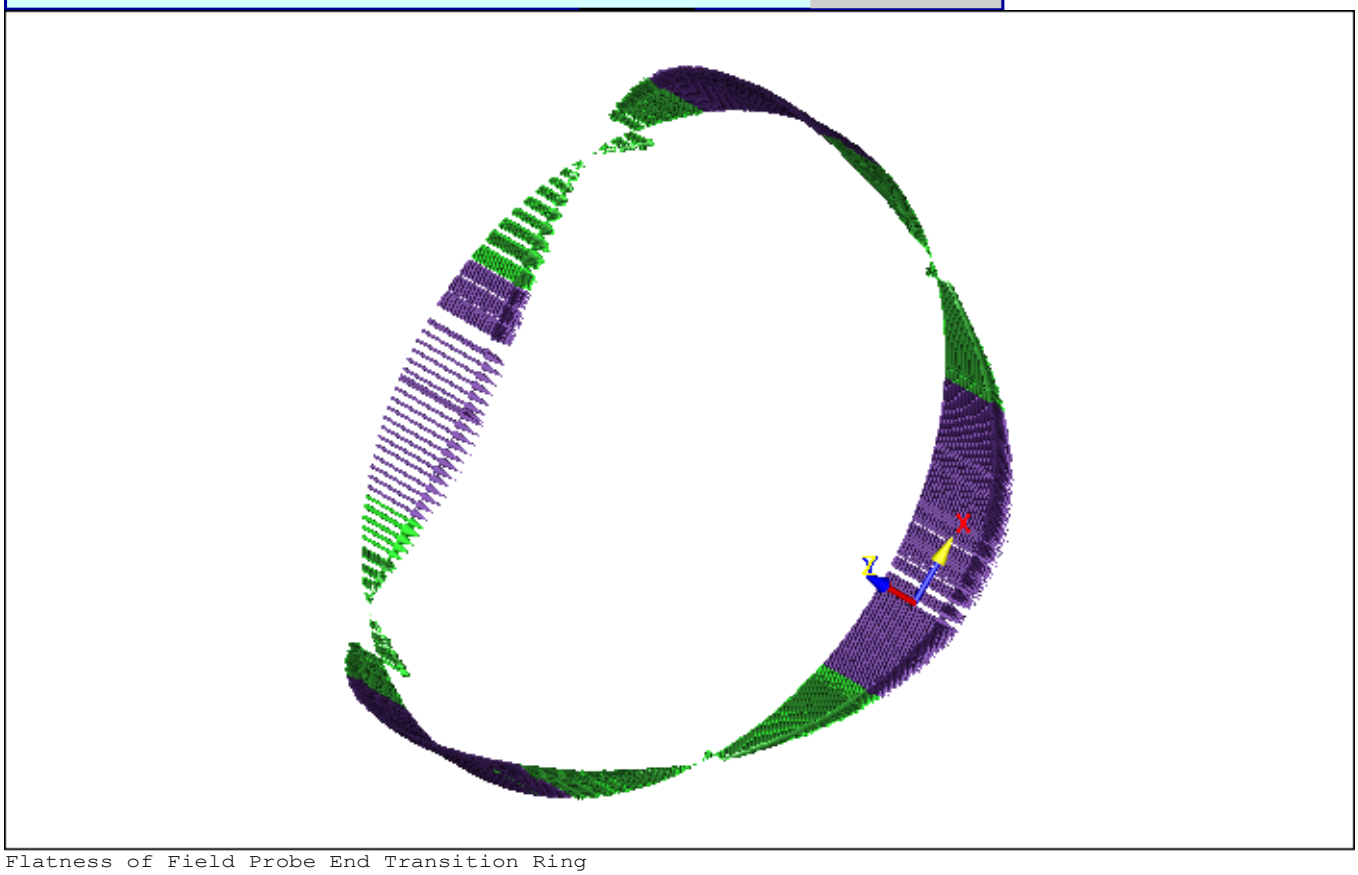
⌖	MM	LOC31 - F_MAX_Z2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.368	-0.368	1000.000	1000.000	0.000
Y	1123.752	1126.118	2.366	1.000	1.000	1.366
Z	0.000	118.016	118.016	1000.000	1000.000	0.000

⌖	MM	LOC32 - F_MIN_Z2				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.859	-0.859	1000.000	1000.000	0.000
Y	1123.752	1126.991	3.239	1.000	1.000	2.239
Z	0.000	-117.954	-117.954	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	1006.273	2.247	1.000	1.000	1.247	
↔	MM	DIST03 - F_MAX_Z1 TO F_MAX_Z2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1005.971	1.945	1.000	1.000	0.945	
↔	MM	DIST04 - F_MIN_X1 TO F_MIN_X2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1006.785	2.759	1.000	1.000	1.759	
↔	MM	DIST05 - F_MIN_X1 TO F_MIN_Z2 (YAXIS)					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	
M	1004.026	1007.035	3.009	1.000	1.000	2.009	

FCFFLAT1	MM	▱ 1			
Feature	MEAS	OUTTOL	MAX	MIN	
FP_TRANSITION_RING_LARGE_PLN	0.158	0.000	0.079	-0.079	



Flatness of Field Probe End Transition Ring
x500

FCFFLAT2	MM	▱ 1			
Feature	MEAS	OUTTOL	MAX	MIN	
MC_TRANSITION_RING_LARGE_PLN	0.059	0.000	0.030	-0.030	

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	0.052	0.052	0.200	0.000	0.000

AX	I	J	K
V	-0.001	-1.000	0.001

FCFPERP2	MM	⊥ | 2 | A

Feature	MEAS	OUTTOL	MAX	MIN
FP_END_PLN_CONSTRUCTED	0.199	0.000	0.109	0.090

∡	DEG	ANGL1 - FP_END_PLN_CONSTRUCTED TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.923	-0.077	0.100	0.100	0.000

⌖	MM	LOC34 - FP_END_FLANGE_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.053	-0.053	0.200	0.200	0.000
Z	0.000	0.184	0.184	0.200	0.200	0.000
D	140.000	140.026	0.026	0.300	0.300	0.000
RN	0.000	0.175	0.175	0.200	0.000	0.000

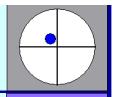
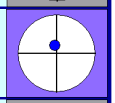
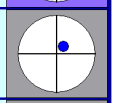
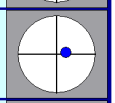
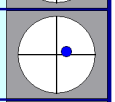
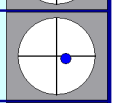
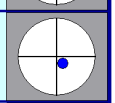
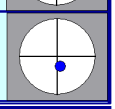
↔	MM	DIST06 - FP_END_PLN_SS TO FP_END_PLN (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	0.944	-0.056	0.100	0.100	0.000

FCFLOC1 Size	MM	12XØ8.8 0.3/0.3

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL	BONUS
FP_CIR1	8.800	8.765	-0.035	0.300	0.300	0.000	0.000
FP_CIR2	8.800	8.772	-0.028	0.300	0.300	0.000	0.000
FP_CIR3	8.800	8.762	-0.038	0.300	0.300	0.000	0.000
FP_CIR4	8.800	8.774	-0.026	0.300	0.300	0.000	0.000
FP_CIR5	8.800	8.758	-0.042	0.300	0.300	0.000	0.000
FP_CIR6	8.800	8.764	-0.036	0.300	0.300	0.000	0.000
FP_CIR7	8.800	8.768	-0.032	0.300	0.300	0.000	0.000
FP_CIR8	8.800	8.774	-0.026	0.300	0.300	0.000	0.000
FP_CIR9	8.800	8.774	-0.026	0.300	0.300	0.000	0.000
FP_CIR10	8.800	8.763	-0.037	0.300	0.300	0.000	0.000
FP_CIR11	8.800	8.766	-0.034	0.300	0.300	0.000	0.000
FP_CIR12	8.800	8.771	-0.029	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	0.039	0.000	0.000
FP_CIR3	0.064	0.000	0.000
FP_CIR4	0.075	0.000	0.000

FP_CIR5	0.000	0.081	0.081	0.300	0.000	0.000	
FP_CIR6	0.000	0.062	0.062	0.300	0.000	0.000	
FP_CIR7	0.000	0.076	0.076	0.300	0.000	0.000	
FP_CIR8	0.000	0.072	0.072	0.300	0.000	0.000	
FP_CIR9	0.000	0.081	0.081	0.300	0.000	0.000	
FP_CIR10	0.000	0.078	0.078	0.300	0.000	0.000	
FP_CIR11	0.000	0.069	0.069	0.300	0.000	0.000	
FP_CIR12	0.000	0.081	0.081	0.300	0.000	0.000	

FCFLOC1 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	0.013	Fixed	0.050	Fixed	-0.365	Fixed

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

Feature	AX	NOMINAL	MEAS	DEV
FP_CIR1	PR	60.000	59.967	-0.033
	PA	75.000	75.009	0.009
FP_CIR2	PR	60.000	59.982	-0.018
	PA	45.000	45.007	0.007
FP_CIR3	PR	60.000	59.972	-0.028
	PA	15.000	15.015	0.015
FP_CIR4	PR	60.000	59.964	-0.036
	PA	-15.000	-14.990	0.010
FP_CIR5	PR	60.000	59.960	-0.041
	PA	-45.000	-44.998	0.002
FP_CIR6	PR	60.000	59.969	-0.031
	PA	-75.000	-74.999	0.001
FP_CIR7	PR	60.000	59.966	-0.034
	PA	-105.000	-104.983	0.017
FP_CIR8	PR	60.000	59.970	-0.030
	PA	-135.000	-134.981	0.019
FP_CIR9	PR	60.000	59.959	-0.041
	PA	-165.000	-165.000	-0.001
FP_CIR10	PR	60.000	59.961	-0.039
	PA	165.000	165.001	0.000
FP_CIR11	PR	60.000	59.965	-0.035
	PA	135.000	135.001	0.001
FP_CIR12	PR	60.000	59.959	-0.041
	PA	105.000	104.999	-0.001

	MM	LOC35 - MC_END_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1247.400	1249.525	2.125	3.000	3.000	0.000
FL	0.000	0.030	0.030	0.200	0.000	0.000

AX	I	J	K
V	-0.001	1.000	0.002

FCFPERP3	MM	⊥ .2 A				
Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_END_FLANGE_PLN	0.000	0.247	0.247	0.200	0.000	0.047

∡	DEG	ANGL2 - MC_END_FLANGE_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.896	-0.104	0.100	0.100	0.004

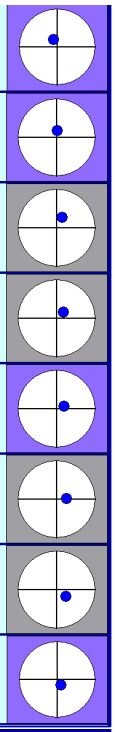
	MM	LOC36 - MC_END_FLANGE_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	0.000	-0.100	-0.100	0.200	0.200	0.000
Z	0.000	0.213	0.213	0.200	0.200	0.013
D	140.000	140.001	0.001	0.300	0.300	0.000
RN	0.000	0.014	0.014	0.200	0.000	0.000

↔	MM	DIST07 - MC_END_FLANGE_PLN TO MC_END_FLANGE_PLN_SS (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	0.971	-0.029	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	8.757	-0.043	0.300	0.300	0.000	0.000
MC_CIR2	8.800	8.752	-0.048	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	8.745	-0.055	0.300	0.300	0.000	0.000
MC_CIR5	8.800	8.754	-0.046	0.300	0.300	0.000	0.000
MC_CIR6	8.800	8.748	-0.052	0.300	0.300	0.000	0.000
MC_CIR7	8.800	8.747	-0.053	0.300	0.300	0.000	0.000
MC_CIR8	8.800	8.747	-0.053	0.300	0.300	0.000	0.000
MC_CIR9	8.800	8.749	-0.051	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	8.759	-0.041	0.300	0.300	0.000	0.000
MC_CIR12	8.800	8.751	-0.049	0.300	0.300	0.000	0.000

FCFLOC2 Position	MM	⌖ Ø.3 E		
Feature	MEAS	OUTTOL	BONUS	
MC_CIR1	0.068	0.000	0.000	
MC_CIR2	0.090	0.000	0.000	
MC_CIR3	0.076	0.000	0.000	
MC_CIR4	0.067	0.000	0.000	

MC_CIR5	0.000	0.065	0.065	0.300		0.000	0.000
MC_CIR6	0.000	0.054	0.054	0.300		0.000	0.000
MC_CIR7	0.000	0.090	0.090	0.300		0.000	0.000
MC_CIR8	0.000	0.073	0.073	0.300		0.000	0.000
MC_CIR9	0.000	0.062	0.062	0.300		0.000	0.000
MC_CIR10	0.000	0.078	0.078	0.300		0.000	0.000
MC_CIR11	0.000	0.090	0.090	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	0.857	Fixed	-2.093	Fixed	-0.347	Fixed

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

Feature	AX	NOMINAL	MEAS	DEV
MC_CIR1	PR	60.000	59.966	-0.034
	PA	75.000	75.005	0.005
MC_CIR2	PR	60.000	59.956	-0.044
	PA	45.001	44.992	-0.009
MC_CIR3	PR	60.000	59.962	-0.037
	PA	15.000	14.995	-0.006
MC_CIR4	PR	60.000	59.967	-0.033
	PA	-15.000	-15.008	-0.008
MC_CIR5	PR	60.000	59.969	-0.031
	PA	-45.000	-44.990	0.010
MC_CIR6	PR	60.000	59.974	-0.026
	PA	-75.000	-74.992	0.008
MC_CIR7	PR	60.000	59.956	-0.044
	PA	-105.000	-104.991	0.009
MC_CIR8	PR	60.000	59.964	-0.036
	PA	-135.000	-134.997	0.003
MC_CIR9	PR	60.000	59.969	-0.031
	PA	-165.000	-165.001	-0.001
MC_CIR10	PR	60.000	59.963	-0.037
	PA	165.000	164.988	-0.012
MC_CIR11	PR	60.000	59.956	-0.044
	PA	135.000	134.994	-0.007
MC_CIR12	PR	60.000	59.975	-0.025
	PA	105.000	104.993	-0.007

Datum Disc planes

Datum Disc Field Probe End

⌖	MM	LOC37 - FP_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	92.842	92.745	-0.098	0.200	0.200	0.000
FL	0.000	0.075	0.075	0.200	0.000	0.000

AX	I	J	K
V	-0.002	-1.000	0.005

FCFPERP4	MM	⊥ .2 A
Feature	MEAS	OUTTOL
FP_DATUM_DISC_PLN	0.532	0.332

∡	DEG	ANGL3 - FP_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.707	-0.293	0.100	0.100	0.193

Datum Disc Main Coupler End

⌖	MM	LOC38 - MC_DATUM_DISC_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1153.900	1156.045	2.145	0.200	0.200	1.945
FL	0.000	0.052	0.052	0.200	0.000	0.000

AX	I	J	K
V	0.002	1.000	0.005

FCFPERP5	MM	⊥ .2 A
Feature	MEAS	OUTTOL
MC_DATUM_DISC_PLN	0.546	0.346

∡	DEG	ANGL4 - MC_DATUM_DISC_PLN TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.715	-0.285	0.100	0.100	0.185

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	1063.300	2.243	0.200	0.200	2.043

↔	MM	DIST09 - MC_DATUM_DISC_PLN TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	93.500	93.480	-0.020	0.200	0.200	0.000

Field Probe Flange

⌖	MM	LOC39 - FP_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-53.800	-54.268	-0.468	0.200	0.200	0.268
FL	0.000	0.005	0.005	0.200	0.000	0.000

AX	I	J	K
V	-1.000	0.002	0.006

FCFPARL1	MM	// .2 X-
Feature	MEAS	OUTTOL
FP_FLANGE_PLN	0.163	0.000

∡	DEG	ANGL5 - FP_FLANGE_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.356	-0.356	0.100	0.100	0.256

⌖	MM	LOC40 - FP_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	60.600	60.379	-0.221	0.200	0.200	0.021
Z	0.000	0.252	0.252	0.200	0.200	0.052
D	33.800	33.839	0.039	0.150	0.150	0.000
RN	0.000	0.017	0.017	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	0.561	0.061	0.200	0.200	0.000

Main Coupler Flange

⌖	MM	LOC41 - MC_NW40_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	88.000	87.912	-0.088	0.200	0.200	0.000
FL	0.000	0.010	0.010	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	0.238	0.238	0.200	0.000	0.038

∡	DEG	ANGL6 - MC_NW40_PLN TO WORKPLANE_X_MINUS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	0.000	-0.214	-0.214	0.100	0.100	0.114

↔	MM	DIST11 - MC_NW40_PLN TO MC_NW40_PLN_SS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.500	0.490	-0.010	0.200	0.200	0.000

⌖	MM	LOC42 - MC_NW40_CIR				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
Y	1186.800	1188.826	2.026	0.200	0.200	1.826
Z	0.000	-0.020	-0.020	0.200	0.200	0.000
D	76.000	76.044	0.044	0.200	0.200	0.000
RN	0.000	0.020	0.020	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	60.700	0.100	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	23.148	0.648	0.500	0.500	0.148

FCFLOC3 Size	MM	8XØ6.7 0.3/0.3

Feature	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
MC_NW40_BH_1	6.700	6.774	0.074	0.300	0.300	0.000
MC_NW40_BH_2	6.700	6.786	0.086	0.300	0.300	0.000
MC_NW40_BH_3	6.700	6.800	0.100	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	6.776	0.076	0.300	0.300	0.000
MC_NW40_BH_6	6.700	6.783	0.083	0.300	0.300	0.000
MC_NW40_BH_7	6.700	6.772	0.072	0.300	0.300	0.000
MC_NW40_BH_8	6.700	6.777	0.077	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	0.118	0.118	0.300		0.000
MC_NW40_BH_2	0.000	0.051	0.051	0.300		0.000
MC_NW40_BH_3	0.000	0.019	0.019	0.300		0.000
MC_NW40_BH_4	0.000	0.091	0.091	0.300		0.000
MC_NW40_BH_5	0.000	0.118	0.118	0.300		0.000
MC_NW40_BH_6	0.000	0.118	0.118	0.300		0.000
MC_NW40_BH_7	0.000	0.118	0.118	0.300		0.000
MC_NW40_BH_8	0.000	0.059	0.059	0.300		0.000

FCFLOC3 Datum Shift

Segment	Shift X	Shift Y	Shift Z	Rotation X	Rotation Y	Rotation Z
Segment 1	Fixed	2.035	12.176	0.589	Fixed	Fixed

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

Feature	AX	NOMINAL	MEAS	DEV
MC_NW40_BH_1	PR	1175.016	1175.055	0.039
	PA	1.430	1.428	-0.002
MC_NW40_BH_2	PR	1157.531	1157.556	0.026
	PA	0.601	0.601	0.000
MC_NW40_BH_3	PR	1157.531	1157.537	0.007
	PA	-0.601	-0.601	0.000
MC_NW40_BH_4	PR	1175.016	1175.018	0.002
	PA	-1.430	-1.428	0.002
MC_NW40_BH_5	PR	1199.309	1199.294	-0.015
	PA	-1.402	-1.399	0.003
MC_NW40_BH_6	PR	1216.194	1216.135	-0.059
	PA	-0.572	-0.572	0.000
MC_NW40_BH_7	PR	1216.194	1216.135	-0.059
	PA	0.572	0.573	0.000

MC_NW40_BH_8	PR	1199.309	1199.315	0.006
	PA	1.402	1.400	-0.001

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	-0.559	0.259	0.788			
∡	DEG	ANGL7 - MC_HOM_FLANGE_PLN TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.345	0.345	0.500	0.500	0.000
⊕	MM	LOC44 - MC_HOM_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-71.549	-71.667	-0.118	10.000	10.000	0.000
Y	1190.022	1192.304	2.282	10.000	10.000	0.000
Z	-9.573	-9.944	-0.371	10.000	10.000	0.000
D	33.800	33.842	0.042	0.150	0.150	0.000
RN	0.000	0.007	0.007	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	0.540	0.040	0.050	0.050	0.000

Main Coupler HOM

⊕	MM	LOC45 - MC_FORMTEIL_CYL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-88.468	-85.531	2.937	100.000	100.000	0.000
Y	1186.800	1189.091	2.291	0.200	0.200	2.091
Z	-61.946	-60.917	1.030	100.000	100.000	0.000
D	44.000	44.011	0.011	0.000	0.100	0.011
RN	0.000	0.138	0.138	0.100	0.000	0.038
AX	I	J	K			
V	0.814	-0.002	0.581			
↔	MM	DIST14 - MC_FORMTEIL_CYL TO MC_END_FLANGE_PLN_CONSTRUCT (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.435	-0.165	0.200	0.200	0.000
∡	DEG	ANGL8 - MC_FORMTEIL_CYL TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	35.000	35.516	0.516	0.500	0.500	0.016
∡	DEG	ANGL11 - MC_FORMTEIL_CYL TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.907	-0.093	0.500	0.500	0.000
⊕	MM	LOC46 - MC_FORMTEIL_BUTTON_PNT				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	116.066	0.066	0.200	0.200	0.000
⊕	MM	LOC47 - MC_FORMTEIL_COVER_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	111.000	111.018	0.018	0.200	0.200	0.000
FL	0.000	0.008	0.008	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	-0.482	-0.265	-0.835

∠	DEG	ANGL9 - FP_HOM_FLANGE_PLN TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	29.973	-0.027	0.500	0.500	0.000
⊕	MM	LOC49 - FP_HOM_FLANGE				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	38.431	38.347	-0.084	10.000	10.000	0.000
Y	57.119	56.669	-0.450	10.000	10.000	0.000
Z	-61.636	-61.646	-0.010	10.000	10.000	0.000
D	33.800	33.836	0.036	0.150	0.150	0.000
RN	0.000	0.011	0.011	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	0.558	0.058	0.050	0.050	0.008

Field Probe HOM

⊕	MM	LOC50 - FP_FORMTEIL_CYL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	93.531	91.016	-2.515	100.000	100.000	0.000
Y	60.600	60.475	-0.125	0.200	0.200	0.000
Z	-54.000	-52.495	1.505	100.000	100.000	0.000
D	44.000	43.945	-0.055	0.000	0.100	0.000
RN	0.000	0.038	0.038	0.100	0.000	0.000

AX	I	J	K
V	-0.866	-0.001	0.500

↔	MM	DIST16 - FP_FORMTEIL_CYL TO FP_END_PLN_CONSTRUCTED (YAXIS)				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	60.600	60.475	-0.125	0.200	0.200	0.000
∠	DEG	ANGL10 - FP_FORMTEIL_CYL TO XAXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	30.000	30.010	0.010	0.500	0.500	0.000
∠	DEG	ANGL12 - FP_FORMTEIL_CYL TO Y_AXIS				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
A	90.000	89.928	-0.072	0.500	0.500	0.000
⊕	MM	LOC51 - FP_FORMTEIL_BUTTON_PNT				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	116.000	115.929	-0.071	0.200	0.200	0.000
⊕	MM	LOC52 - FP_FORMTEIL_COVER_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
PR	111.000	110.902	-0.098	0.200	0.200	0.000
FL	0.000	0.026	0.026	0.200	0.000	0.000

	MM	LOC53 - PNT_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-56.665	-56.469	0.195	0.200	0.200	0.000
Y	1183.070	1185.152	2.082	3.000	3.000	0.000
Z	-31.531	-31.760	-0.229	0.200	0.200	0.029
T	0.000	0.250	0.250	0.200	0.200	0.050

	MM	LOC54 - PLN_MC_FORMTEIL				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-55.776	-55.574	0.202	0.200	0.200	0.002
Y	1184.500	1186.591	2.091	3.000	3.000	0.000
Z	-31.376	-31.590	-0.213	0.200	0.200	0.013
T	0.000	0.261	0.261	0.200	0.200	0.061
FL	0.000	0.002	0.002	0.200	0.000	0.000

AX	I	J	K
V	-0.560	0.256	0.788

	MM	DIST17 - PNT_MC_FORMTEIL TO MC_HOM_FLANGE_PLN				
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	28.400	28.348	-0.052	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	28.341	-0.059	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	-0.179	-0.179	1.000	1.000	0.000