

Fiducials for BM2 Std. Vac. Chamber

BM2013

Date:

11/14/02

Chamber:

BM2013

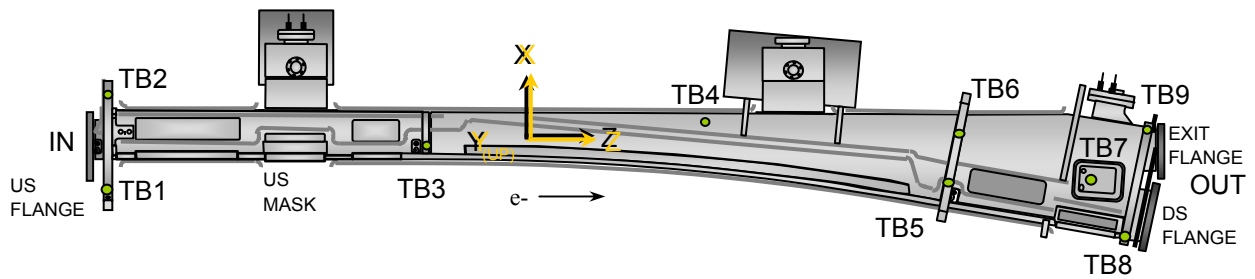
Operator(s):

F. Gaudreault
L. Griffin

Notes:

Downstream flange out in X 0.030 in.

Final survey 01/30/03 HI & LG



Fiducial Coordinates for BM2 Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-77.098	-6.234	4.379
TB2	-77.230	7.222	4.388
TB3	-34.830	0.170	4.370
TB4	1.770	3.962	2.367
TB5	34.486	-4.529	4.377
TB6	35.819	2.474	4.384
TB7	53.866	-4.307	2.427
TB8	58.014	-12.483	2.962
TB9	60.939	2.968	2.964

Nominal Deltas For H1 Absorber (TB7)

Z	X	Y
53.866	-4.307	2.427
53.933	-4.302	2.408
-0.067	-0.005	0.019

inches inches inches

Source **FINAL**

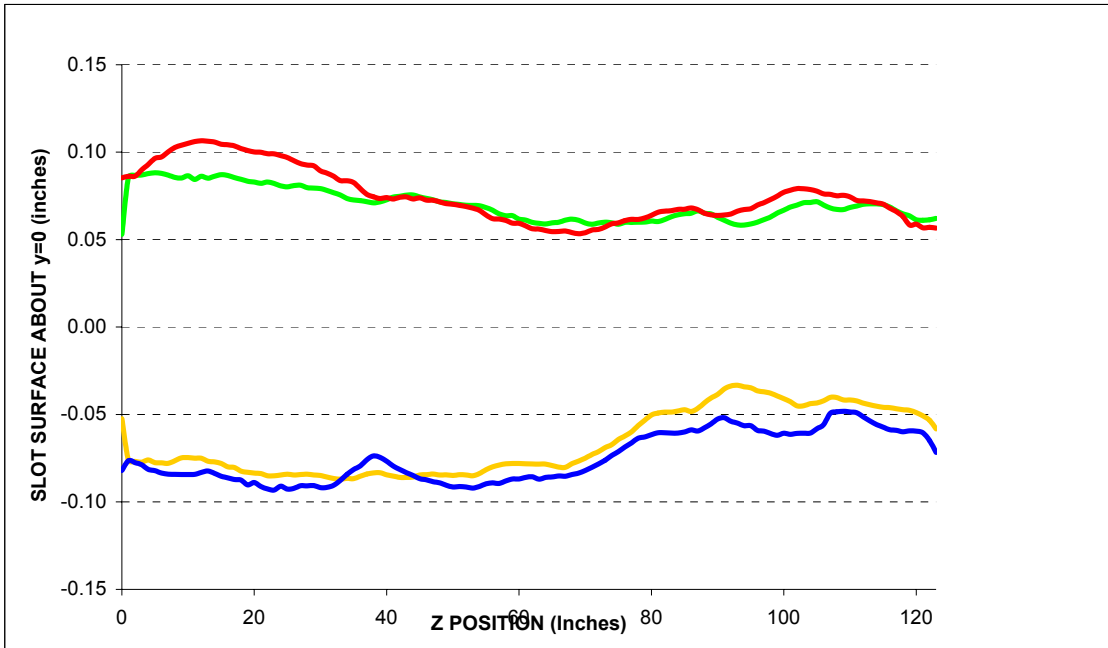
Description:

Fiducial vals based on established chamber datum. Source="Final" indicates final data.

Fiducialization Step: (Traveler Step # 1380)

Slot Calibration	
Ideal	0.511
Meas.	
Delta	-----

Inverted Mouse Slot Calibration	
Ideal	0.511
Meas.	
Delta	-----



BM2013

Step 1: Heights for BM2 Std. Vac. Chamber

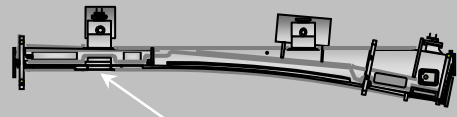
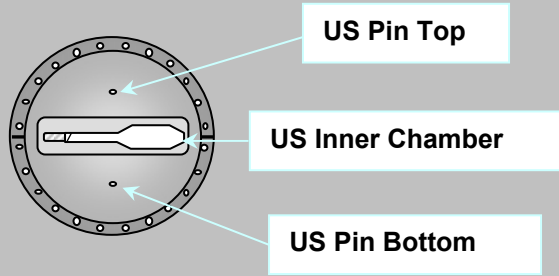
Fiducial	Y
TB1	4.380
TB2	4.387
TB3	4.370
TB4	2.360
TB5	4.377
TB6	4.384

inches

Description:
 Fiducial heights of the six tooling balls are based on leveled datum as defined by outside surface measurements. (L1 through L5)

US Flange Position

Step 2: UpStream Flange Postion



US MASK X-Position	
-2.530	Measured
-2.667	Nominal
0.137	Delta

inches

US PIN TOP	Z	X	Y
Measured	-80.227	0.003	2.289
Nominal	-80.229	0.000	2.282
Difference (inches)	0.002	0.003	0.007

US PIN BOTTOM	Z	X	Y
Measured	-80.238	0.006	-2.273
Nominal	-80.229	0.000	-2.282
Difference (inches)	-0.008	0.006	0.009

US Inner Chamber	Z	X	Y
Measured	N/A	-1.404	-0.012
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	0.000	-0.012

US Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	-80.763	-0.002	0.005
Nominal	-80.763	0.000	0.000
Difference (inches)	0.000	-0.002	0.005

inches inches inches

US Flange Attitude		
	yaw	pitch
Measured	8.9	2.0
Nominal	0.0	0.0
Difference	8.9	2.0

mrad mrad

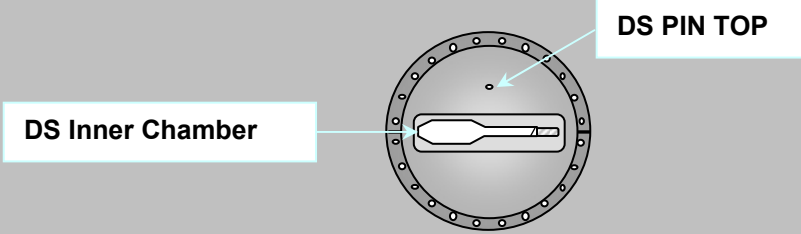
US Flange Diameter	
	DIA
Measured	11.468
Nominal	11.500
Difference	-0.032

inches

Description:
 Measured vs. nominal values for US flange expressed in the FRAME FINAL coordinate system.
 Tol +/- 10mils and +/- 3 mrad. Values in **BOLD** or **RED** are most critical.

DS Flange Position

Step 3: DownStream Flange Position



DS PIN TOP	Z	X	Y
Measured	62.741	1.801	2.298
Nominal	62.859	1.836	2.282
Difference (inches)	-0.118	-0.036	0.016

DS Inner Chamber	Z	X	Y
Measured	N/A	-1.437	-0.065
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	-0.033	-0.065

DS Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.275	1.809	0.001
Nominal	63.393	1.836	0.000
Difference (inches)	-0.118	-0.027	0.001
	inches	inches	inches

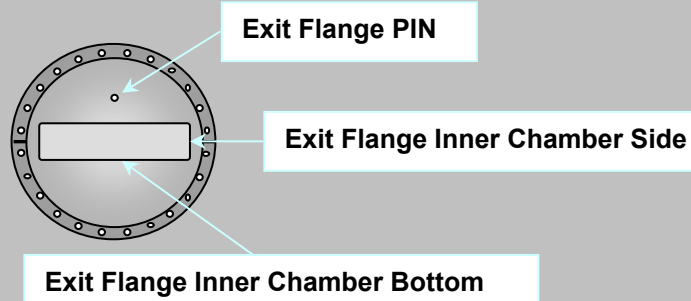
DS Flange Attitude		
	yaw	pitch
Measured	-5.8	-3.4
Nominal	0.0	0.0
Difference	-5.8	-3.4
	mrad	mrad

DS Flange Diameter	
	DIA
Measured	11.472
Nominal	11.500
Difference	-0.028
	inches

Description:
 Meas. vs. nom. values for DS flange expressed in a ROTATED FRAME FINAL coordinate system (10.5882°). Tol +/- 10mils and +/- 3 mrad. Values in **BOLD** or **RED** are most critical.

Exit Port Flange Position (DownStream)

Step 3: DownStream EXIT PORT Flange Position



EXIT FLANGE PIN	Z	X	Y
Measured	63.324	-0.004	1.805
Nominal	63.422	0.000	1.782
Difference (inches)	-0.098	-0.004	0.023

EXIT FLANGE Inner Chamber Side	Z	X	Y
Measured	N/A	2.446	-0.133
Nominal	N/A	2.453	0.000
Difference (inches)	N/A	-0.007	-0.133

EXIT FLANGE Inner Chamber Bottom	Z	X	Y
Measured	N/A	0.194	-0.197
Nominal	N/A	0.000	-0.219
Difference (inches)	N/A	0.194	0.022

EXIT Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	62.198	-0.002	0.011
Nominal	63.956	0.000	0.000
Difference (inches)	-1.758	-0.002	0.011
	inches	inches	inches

EXIT FLANGE Attitude		
	yaw	pitch
Measured	-0.7	-5.8
Nominal	0.0	0.0
Difference	-0.7	-5.8
	mrاد	mrاد

EXIT FLANGE Diameter	
	DIA
Measured	9.468
Nominal	9.500
Difference	-0.032
	inches

Description:

Meas. vs. nom. values for exit flange expressed in the FRAME FINAL coordinate system.
 Tol +/- 10mils and +/- 3 mrad. Values in **BOLD** or **RED** are most critical.

Final Fiducial Coordinates for BM2 Standard Vacuum Chamber

Final: Fiducial Coordinates for BM2 Std. Vac. Chamber

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TB1	-77.098	-6.234	4.379
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inches inches inches

Description:
Fiducial values based on established chamber datum.

