

Fiducials for BM2 Std. Vac. Chamber

BM2011

Date:

11/14/02

Chamber:

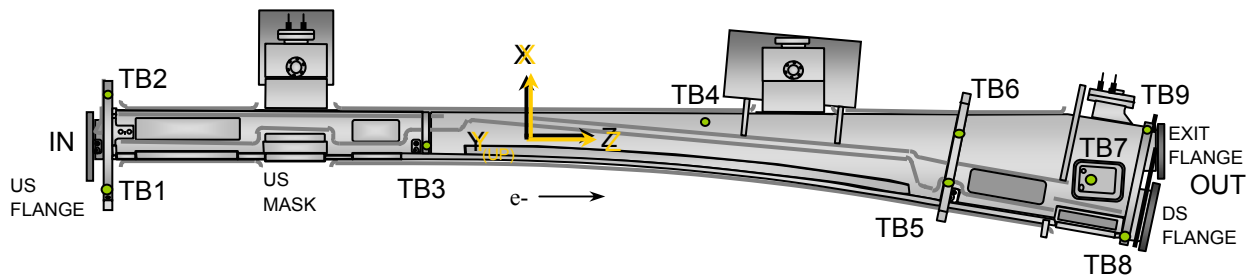
BM2011

Operator(s):

F. Gaudreault
L. Griffin

Notes:

Upstream flange low 0.030 in. Final survey 1/28/03: MG & CLC



Fiducial Coordinates for BM2 Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-77.151	-6.234	4.365
TB2	-77.265	7.259	4.355
TB3	-34.878	0.183	4.372
TB4	0.202	3.987	2.376
TB5	34.443	-4.656	4.342
TB6	35.823	2.466	4.344
TB7	53.880	-4.280	2.401
TB8	58.064	-12.392	2.936
TB9	60.969	3.012	2.962

Nominal Deltas For H1 Absorber (TB7)

Z	X	Y
53.880	-4.280	2.401
53.933	-4.302	2.408
-0.053	0.022	-0.007

inches inches inches

Source **FINAL**

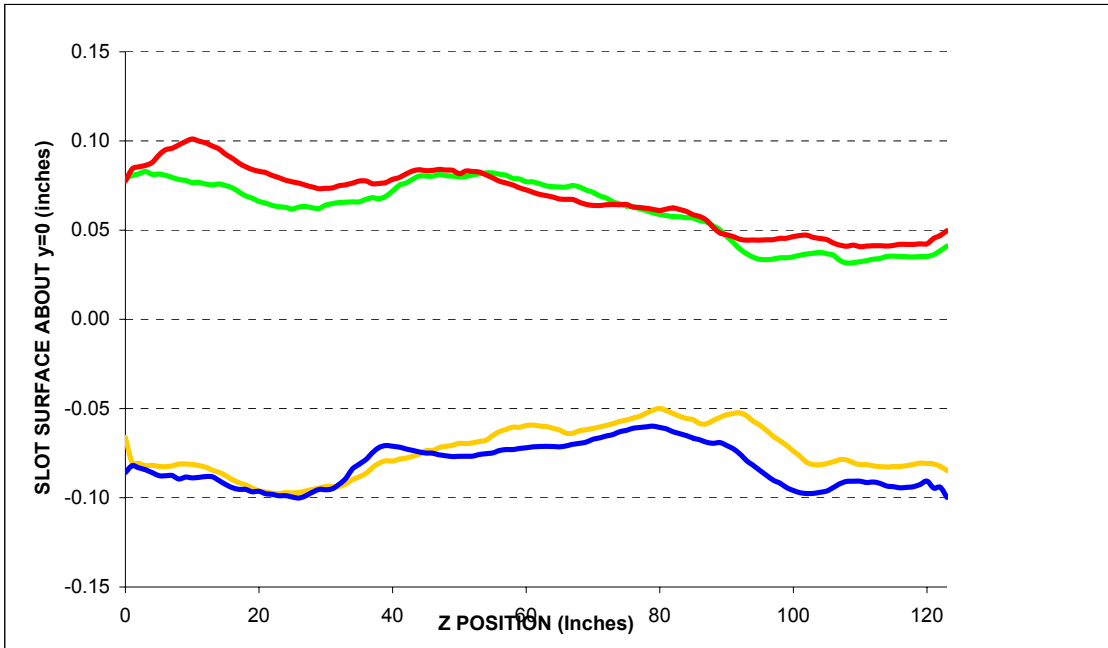
Description:

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	-----



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Step 1: Heights for BM2 Std. Vac. Chamber

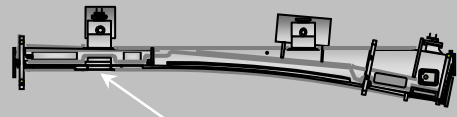
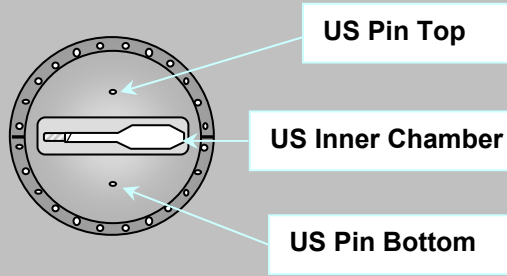
Fiducial	Y
TB1	4.365
TB2	4.356
TB3	4.372
TB4	2.367
TB5	4.342
TB6	4.344

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	
-2.547	Measured
-2.667	Nominal
0.120	Delta

inches

US PIN TOP	Z	X	Y
Measured	-80.243	0.004	2.249
Nominal	-80.229	0.000	2.282
Difference (inches)	-0.014	0.004	-0.033

US PIN BOTTOM	Z	X	Y
Measured	-80.216	0.003	-2.313
Nominal	-80.229	0.000	-2.282
Difference (inches)	0.013	0.003	-0.031

US Inner Chamber	Z	X	Y
Measured	N/A	-1.404	-0.096
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	0.000	-0.096

US Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	-80.763	-0.001	-0.043
Nominal	-80.763	0.000	0.000
Difference (inches)	0.000	-0.001	-0.043

inches inches inches

US Flange Attitude		
	yaw	pitch
Measured	8.6	-6.4
Nominal	0.0	0.0
Difference	8.6	-6.4

mrad mrad

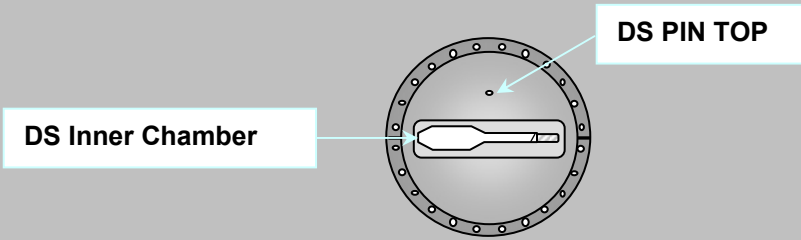
US Flange Diameter	
	DIA
Measured	11.471
Nominal	11.500
Difference	-0.029

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	62.757	1.817	2.282
Nominal	62.859	1.836	2.282
Difference (inches)	-0.102	-0.019	0.000

DS Inner Chamber	Z	X	Y
Measured	N/A	-1.418	-0.022
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	-0.014	-0.022

DS Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.295	1.826	-0.007
Nominal	63.393	1.836	0.000
Difference (inches)	-0.098	-0.010	-0.007
	inches	inches	inches

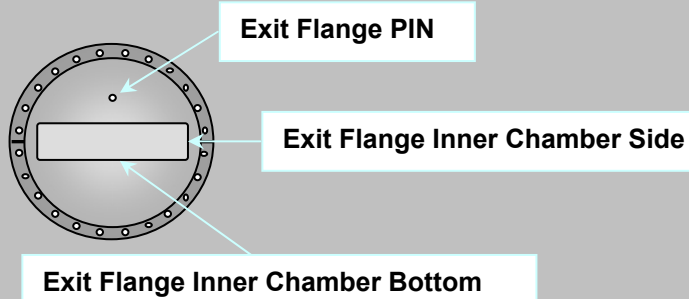
DS Flange Attitude		
	yaw	pitch
Measured	-3.2	-4.3
Nominal	0.0	0.0
Difference	-3.2	-4.3
	mrad	mrad

DS Flange Diameter	
	DIA
Measured	11.467
Nominal	11.500
Difference	-0.033
	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	63.327	0.001	1.807
Nominal	63.422	0.000	1.782
Difference (inches)	-0.095	0.001	0.025

EXIT FLANGE Inner Chamber Side	Z	X	Y
Measured	N/A	-2.453	0.032
Nominal	N/A	-2.453	0.000
Difference (inches)	N/A	0.000	0.032

EXIT FLANGE Inner Chamber Bottom	Z	X	Y
Measured	N/A	-0.172	-0.198
Nominal	N/A	0.000	-0.219
Difference (inches)	N/A	-0.172	0.021

EXIT Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.886	-0.001	0.016
Nominal	63.956	0.000	0.000
Difference (inches)	-0.070	-0.001	0.016
	inches	inches	inches

EXIT FLANGE Attitude		
	yaw	pitch
Measured	0.6	-9.5
Nominal	0.0	0.0
Difference	0.6	-9.5
	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	-77.151	-6.234	4.365
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inches inches inches

Description:
Fiducial values based on established chamber datum.

