

**Fiducials for BM2 Std. Vac. Chamber**

**BM2006**

Date:

10/31/02

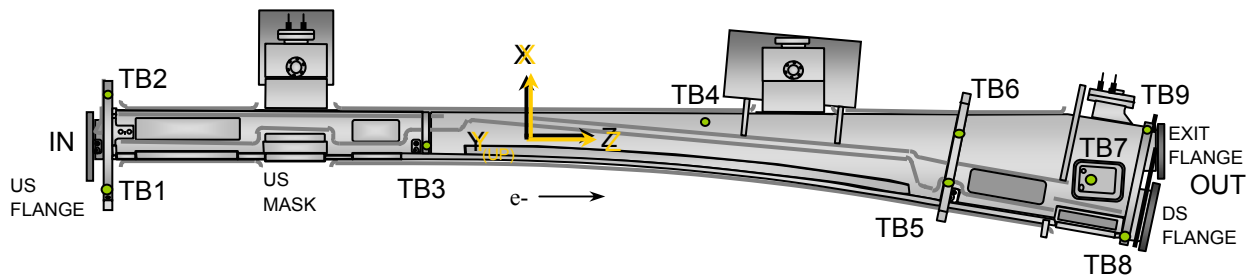
Chamber:

BM2006

Operator(s):

M. Gaydosh  
H. Imfeld

Notes:



**Fiducial Coordinates for BM2 Standard Vacuum Chamber: (inches)**

Fiducial	Z	X	Y
TB1	-77.097	-6.224	4.374
TB2	-77.197	7.254	4.384
TB3	-34.879	0.078	4.379
TB4	0.264	3.976	2.393
TB5	34.485	-4.640	4.395
TB6	35.768	2.483	4.396
TB7	53.857	-4.277	2.429
TB8	58.004	-12.463	2.961
TB9	60.996	3.010	2.962

**Nominal Deltas For H1 Absorber (TB7)**

Z	X	Y
53.857	-4.277	2.429
53.933	-4.302	2.408
-0.076	0.025	0.021

inches      inches      inches

Source

**FINAL**

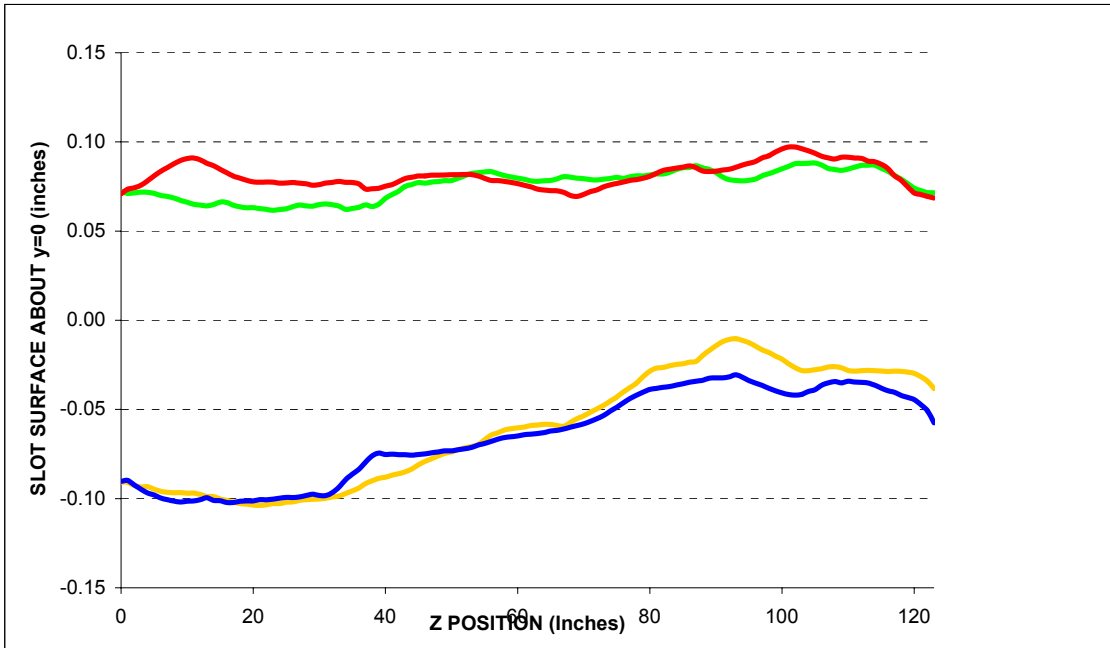
**Description:**

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	-----



BM2006

**Step 1: Heights for BM2 Std. Vac. Chamber**

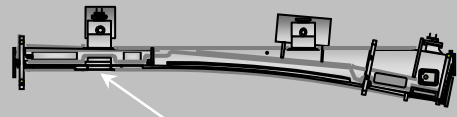
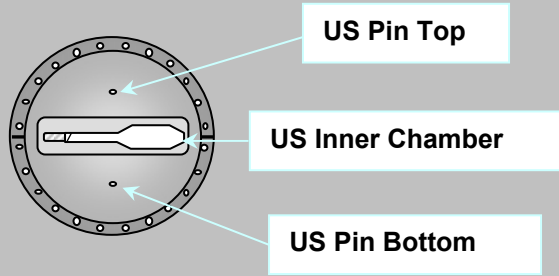
Fiducial	Y
TB1	4.376
TB2	4.385
TB3	4.373
TB4	2.383
TB5	4.396
TB6	4.397

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	
-2.532	Measured
-2.667	Nominal
<b>0.135</b>	<b>Delta</b>

inches

US PIN TOP	Z	X	Y
Measured	-80.228	0.008	2.284
Nominal	-80.229	0.000	2.282
<b>Difference</b> (inches)	0.001	<b>0.008</b>	<b>0.002</b>

US PIN BOTTOM	Z	X	Y
Measured	-80.228	0.014	-2.281
Nominal	-80.229	0.000	-2.282
<b>Difference</b> (inches)	0.001	<b>0.014</b>	<b>0.002</b>

US Inner Chamber	Z	X	Y
Measured	N/A	-1.404	-0.016
Nominal	N/A	-1.404	0.000
<b>Difference</b> (inches)	N/A	<b>0.000</b>	-0.016

US Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	-80.763	0.012	-0.006
Nominal	-80.763	0.000	0.000
<b>Difference</b> (inches)	<b>0.000</b>	<b>0.012</b>	<b>-0.006</b>

inches          inches          inches

US Flange Attitude		
	yaw	pitch
Measured	7.6	-0.4
Nominal	0.0	0.0
<b>Difference</b>	<b>7.6</b>	<b>-0.4</b>

mrad          mrad

US Flange Diameter	
	DIA
Measured	11.472
Nominal	11.500
<b>Difference</b>	<b>-0.028</b>

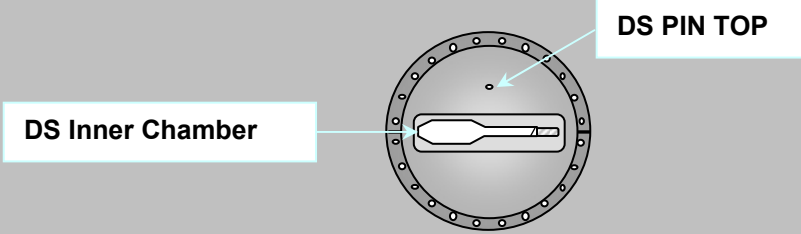
inches

**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	62.731	1.822	2.288
Nominal	62.859	1.836	2.282
Difference (inches)	-0.128	<b>-0.014</b>	<b>0.006</b>

DS Inner Chamber	Z	X	Y
Measured	N/A	-1.421	0.009
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	<b>-0.017</b>	<b>0.009</b>

DS Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.263	1.818	0.002
Nominal	63.393	1.836	0.000
Difference (inches)	<b>-0.130</b>	<b>-0.018</b>	<b>0.002</b>
	inches	inches	inches

DS Flange Attitude		
	yaw	pitch
Measured	-8.2	-5.1
Nominal	0.0	0.0
Difference	<b>-8.2</b>	<b>-5.1</b>
	mrad	mrad

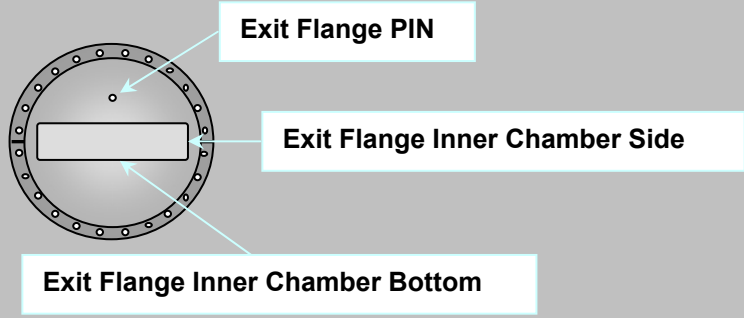
DS Flange Diameter	
	DIA
Measured	11.468
Nominal	11.500
Difference	<b>-0.032</b>
	inches

**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	63.321	0.012	1.796
Nominal	63.422	0.000	1.782
Difference (inches)	-0.101	<b>0.012</b>	<b>0.014</b>

EXIT FLANGE Inner Chamber Side	Z	X	Y
Measured	N/A	2.461	0.066
Nominal	N/A	2.453	0.000
Difference (inches)	N/A	<b>0.008</b>	0.066

EXIT FLANGE Inner Chamber Bottom	Z	X	Y
Measured	N/A	0.055	-0.207
Nominal	N/A	0.000	-0.219
Difference (inches)	N/A	0.055	<b>0.012</b>

EXIT Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.875	0.012	0.010
Nominal	63.956	0.000	0.000
Difference (inches)	<b>-0.081</b>	<b>0.012</b>	<b>0.010</b>
	inches	inches	inches

EXIT FLANGE Attitude		
	yaw	pitch
Measured	0.2	-8.3
Nominal	0.0	0.0
Difference	0.2	<b>-8.3</b>
	mrاد	mrاد

EXIT FLANGE Diameter	
	DIA
Measured	
Nominal	9.500
Difference	
	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**

Fiducial	Z	X	Y
TB1	-77.097	-6.224	4.374
TB2	-77.197	7.254	4.384
TB3	-34.879	0.078	4.379
TB4	0.264	3.976	2.393
TB5	34.485	-4.640	4.395
TB6	35.768	2.483	4.396
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inches inches inches

**Description:**  
Fiducial values based on established chamber datum.

