

# Fiducials for BM2 Std. Vac. Chamber

BM2012

Date:

11/5/02

Chamber:

BM2012

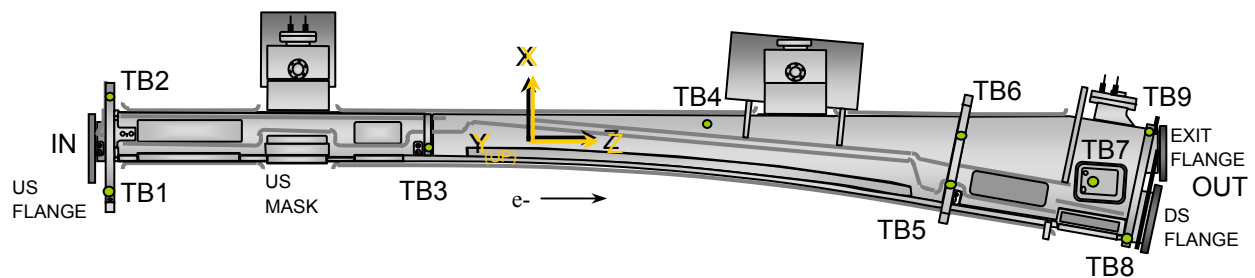
Operator(s):

M. Gaydosh

C. LeCocq

Notes:

Final survey 12/06/02 HI



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

Fiducial	Z	X	Y
TB1	-77.256	-6.254	4.362
TB2	-77.238	7.229	4.377
TB3	-34.859	0.050	4.370
TB4	0.315	3.852	2.374
TB5	34.461	-4.634	4.372
TB6	35.844	2.431	4.374
TB7	53.879	-4.288	2.409
TB8	58.020	-12.419	2.923
TB9	60.978	3.021	2.956

### Nominal Deltas For H1 Absorber (TB7)

Z	X	Y
53.879	-4.288	2.409
53.933	-4.302	2.408
-0.054	0.014	0.001

inches inches inches

Source

**FINAL**

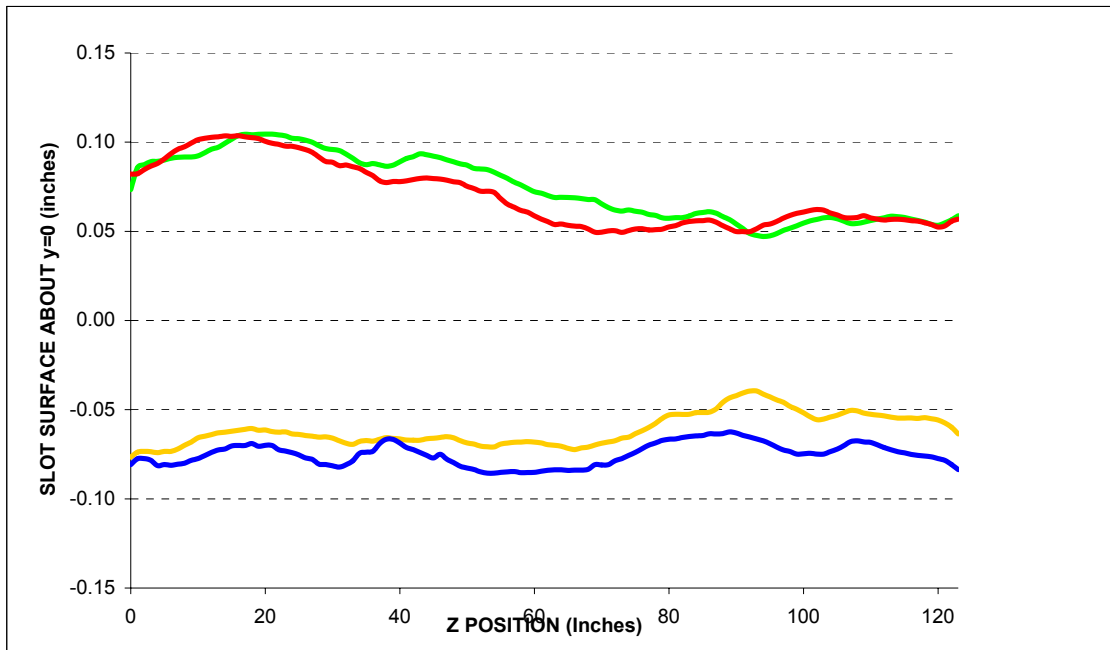
#### Description:

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	-----



BM2012

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

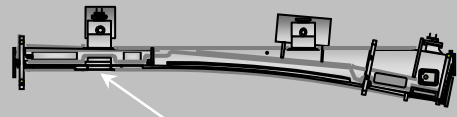
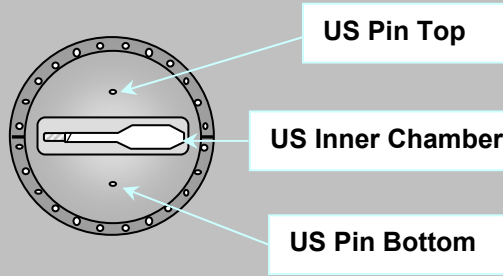
Fiducial	Y
TB1	4.362
TB2	4.377
TB3	4.370
TB4	2.363
TB5	4.372
TB6	4.374

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	
-2.582	Measured
-2.667	Nominal
<b>0.085</b>	<b>Delta</b>

inches

US PIN TOP	Z	X	Y
Measured	-80.235	0.007	2.269
Nominal	-80.229	0.000	2.282
Difference (inches)	-0.006	<b>0.007</b>	<b>-0.013</b>

US PIN BOTTOM	Z	X	Y
Measured	-80.223	0.010	-2.295
Nominal	-80.229	0.000	-2.282
Difference (inches)	0.006	<b>0.010</b>	<b>-0.013</b>

US Inner Chamber	Z	X	Y
Measured	N/A	-1.404	0.046
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	<b>0.000</b>	0.046

US Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	-80.763	0.005	-0.022
Nominal	-80.763	0.000	0.000
Difference (inches)	<b>0.000</b>	<b>0.005</b>	<b>-0.022</b>

inches          inches          inches

US Flange Attitude		
	yaw	pitch
Measured	5.5	-2.9
Nominal	0.0	0.0
Difference	<b>5.5</b>	<b>-2.9</b>

mrad          mrad

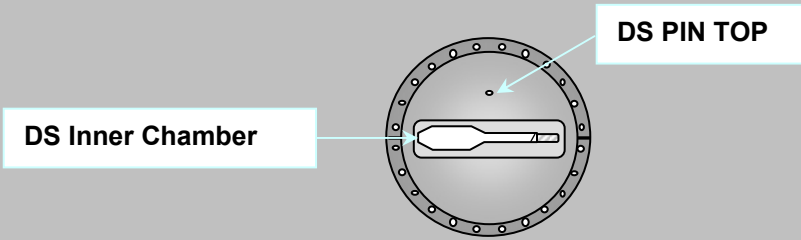
US Flange Diameter	
	DIA
Measured	11.471
Nominal	<b>11.500</b>
Difference	<b>-0.029</b>

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	62.761	1.811	2.268
Nominal	62.859	1.836	2.282
Difference (inches)	-0.098	<b>-0.025</b>	<b>-0.014</b>

DS Inner Chamber	Z	X	Y
Measured	N/A	-1.424	0.008
Nominal	N/A	-1.404	0.000
Difference (inches)	N/A	<b>-0.020</b>	<b>0.008</b>

DS Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.295	1.820	-0.023
Nominal	63.393	1.836	0.000
Difference (inches)	<b>-0.098</b>	<b>-0.016</b>	<b>-0.023</b>
	inches	inches	inches

DS Flange Attitude		
	yaw	pitch
Measured	-4.4	-3.8
Nominal	0.0	0.0
Difference	<b>-4.4</b>	<b>-3.8</b>
	mrad	mrad

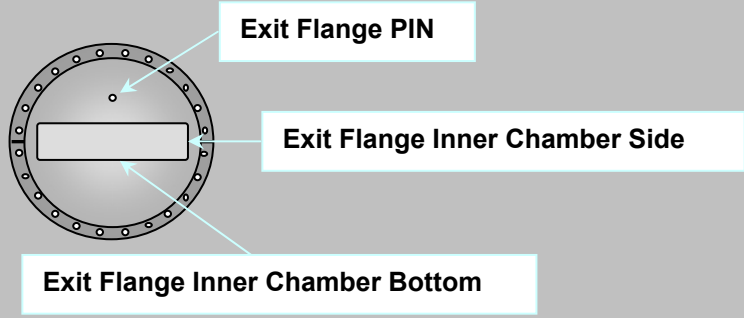
DS Flange Diameter	
	DIA
Measured	11.467
Nominal	11.500
Difference	<b>-0.033</b>
	inches

**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	63.329	0.003	1.795
Nominal	63.422	0.000	1.782
Difference (inches)	-0.093	0.003	0.013

EXIT FLANGE Inner Chamber Side	Z	X	Y
Measured	N/A	2.451	0.146
Nominal	N/A	2.453	0.000
Difference (inches)	N/A	-0.002	0.146

EXIT FLANGE Inner Chamber Bottom	Z	X	Y
Measured	N/A	0.402	-0.210
Nominal	N/A	0.000	-0.219
Difference (inches)	N/A	0.402	0.009

EXIT Flange Position	Plane	From Circle Fit	
	Z	X	Y
Measured	63.883	0.005	0.007
Nominal	63.956	0.000	0.000
Difference (inches)	-0.073	0.005	0.007
	inches	inches	inches

EXIT FLANGE Attitude		
	yaw	pitch
Measured	0.8	-10.0
Nominal	0.0	0.0
Difference	0.8	-10.0
	mrاد	mrاد

EXIT FLANGE Diameter	
	DIA
Measured	9.470
Nominal	9.500
Difference	-0.030
	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	-77.256	-6.254	4.362
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inches      inches      inches

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

