

Fiducials for QFC Std. Vac. Chamber

QFC012

Date:

11/19/01

Chamber:

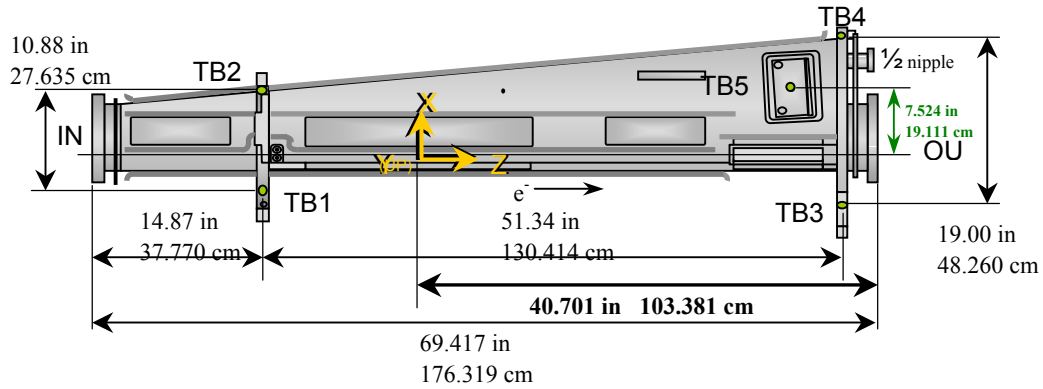
QFC012

Operator(s):

F. Gaudreault
L. Griffin

Notes:

Traveler Step #1200: 8/14/01 & 8/30/01; #1280: 9/20/01; #1380 & #1465 below



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.835	-3.449	4.401
TB2	-13.817	7.278	4.375
TB3	37.425	-5.539	4.383
TB4	37.561	13.168	2.959
TB5	33.439	7.562	2.078
TB6	13.440	2.613	2.381
TB7	13.436	2.592	-2.360

TB5 _x Absorber Check	
Measured	7.562
Nominal	7.524
Difference	0.038

STATUS: **OK**
< 0.100 in

Source: **US Step**

Description:
Fid. vals based on internal chamber datum. Source="US Step" indicates final data unless rechecked.

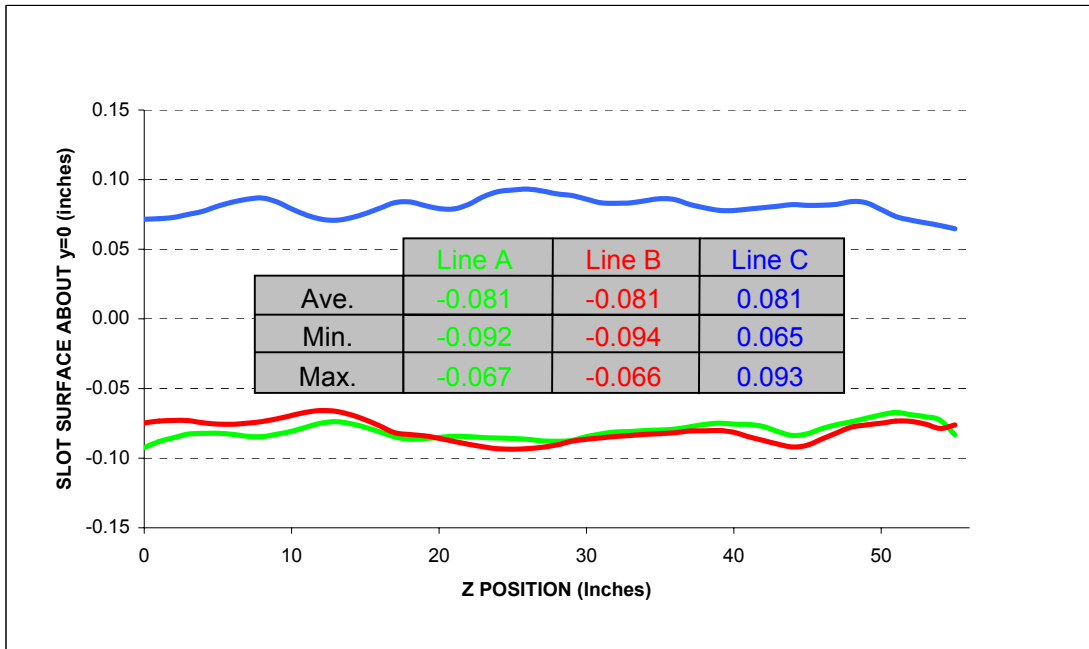
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.628	1.835	0.001	US
OUT	40.701	1.839	-0.028	DS
NIP	N/A	10.514	-0.034	DS

Source: **US Step**

Description:
Flange values based on scans of flange surfaces and referenced to internal chamber datum.

Fiducialization Step: (Traveler Step # 1380: 11/09/01 & 11/14/01)



QFC012

Step 1: Fiducial and Flange Coordinates for QFC Std. Vac. Chamber

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.835	-3.449	4.401	OUT	NIP
TB2	-13.817	7.278	4.375	Z	41.451 N/A in
TB3	37.425	-5.539	4.383	X	1.839 10.514 in
TB4	37.561	13.168	2.959	Y	-0.028 -0.034 in
TB5	33.439	7.562	2.078		
TB6	13.440	2.613	2.381		
TB7	13.436	2.592	-2.360		
	inches	inches	inches	Nominals:	Xout 1.836 Yout 0.000

Description:
Fiducial values based on internal chamber datum. Flange OUT X and Y values checked ± 0.020 in.

Status

Step 2: Downstream Flange Check

Flange	Yaw	Pitch	Diameter		Nominal Diameter	Status
			Meas.	Actual		
OUT	-8.88	2.40	11.467	9.967	9.970	OK
NIP	N/A	N/A	4.229	2.729	2.730	OK ??
	mrads	mrads	inches			± 0.015 in

Description:
Yaw -6 to -13 mrad. Pitch ± 3 mrad. Diameter difference ± 0.015 in

Step 1: Change in Fiducial Values Check

Fiducial	Delta Z	Delta X	Delta Y
TB1	0.002	0.001	0.000
TB2	0.000	-0.001	-0.001
TB3	-0.001	0.001	-0.001
TB4	0.001	0.000	0.000
TB5	0.000	-0.001	0.000
TB6	0.000	0.000	0.001
TB7	-0.001	0.000	0.001

inches inches inches

OK

OK

OK

OK

OK

OK

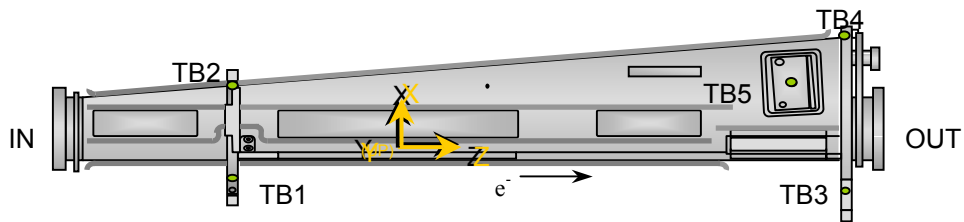
OK

OK

±0.006 in

Description:
Difference between current and previous fiducial values.

Global: **OK**



Step 2: Change in Downstream Flange Check

Flange	X	Y	Diameter
OUT			
New:	1.843	-0.030	11.469 in
Delta:	0.004	-0.002	0.002 in

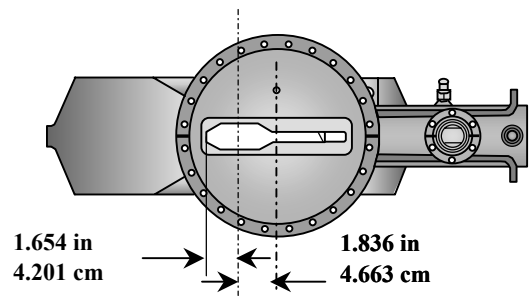
Diameter:

OK

X and Y: ±0.006 in

Diameter: ±0.015 in

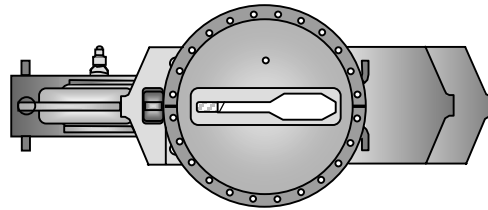
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



Final "Upstream Flange" Step (#1465 continued):

QFC012
Status

Step 3: Upstream Flange Values					
Flange IN		Flange IN			
-29.378	Z	6.05	-2.91	mrad	
1.835	X	Yaw	Pitch		
0.001	Y				
inches		Meas.	Actual	Nominal Diameter	
Diameter		11.472	9.972	9.970	OK
		in		±0.015 in	
Description:					
Location and orientation of Flange IN (upstream) plus its measured diameter.					
Flange IN X and Y values are also checked ±0.020 in. Yaw 5 to 9 mrad. Pitch ±3 mrad.					



QFC012
Status

Step 4: QFC Chamber Length					
Length with SMR		Length		Nominal Length	
70.829	inches	69.329	inches	69.417	OK
Description:					
Length should be between nominal value and nominal value - 0.125 in.					

