

Fiducials for QFC Std. Vac. Chamber

QFC013

Date:

2/22/02

Chamber:

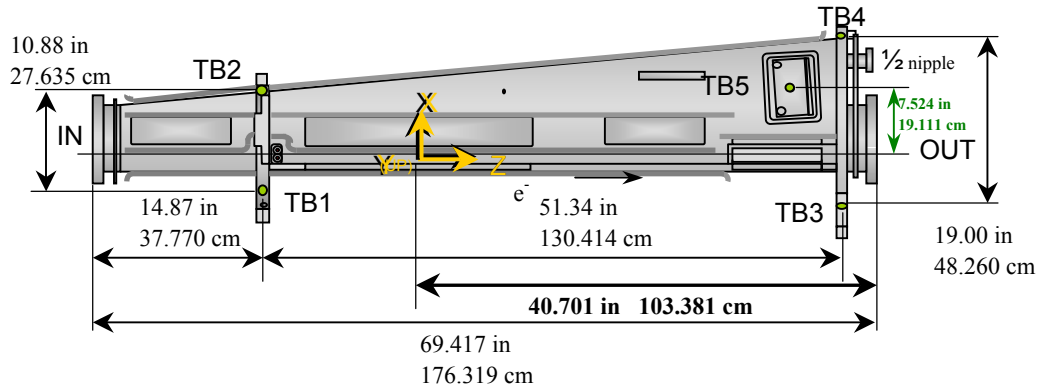
QFC013

Operator(s):

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Notes:

Traveler Step #1200: 02/08/02; #1280: 02/12/02 (#1380 & #1465 see below)



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.793	-3.429	4.403
TB2	-13.824	7.273	4.369
TB3	37.454	-5.433	4.416
TB4	37.535	13.291	2.992
TB5	33.424	7.564	2.095
TB6			
TB7			

TB5 _x Absorber Check	
Measured	7.564
Nominal	7.524
Difference	0.040

STATUS: **OK**
< 0.100 in

Source: **US Step**

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

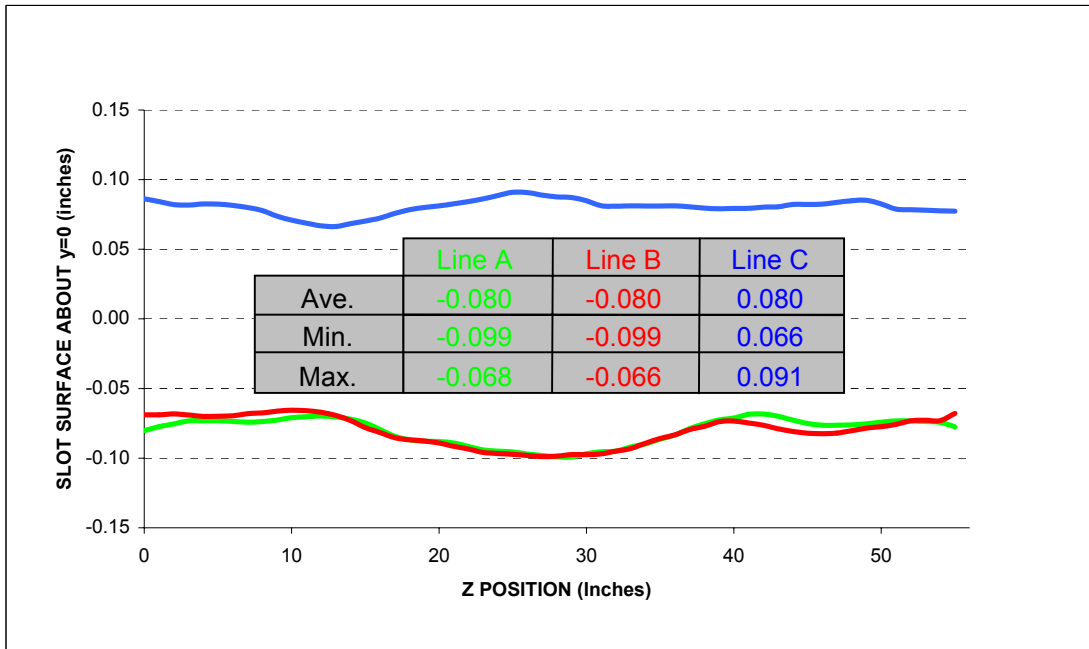
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.630	1.804	0.005	US
OUT	40.701	1.837	0.011	DS
NIP	N/A	10.524	-0.006	DS

Source: **US Step**

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

Fiducialization Step: (Traveler Step # 1380: 02/22/02)



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

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.793	-3.429	4.403	OUT	NIP
TB2	-13.824	7.273	4.369	Z	41.451 N/A in
TB3	37.454	-5.433	4.416	X	1.844 10.524 in
TB4	37.535	13.291	2.992	Y	0.009 -0.006 in
TB5	33.424	7.564	2.095		
TB6					
TB7					
	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		
			Meas.	Actual			
OUT	-9.15	0.81	11.471	9.971	9.970	OK	
NIP	N/A	N/A	4.230	2.730	2.730	OK	??
	mrad	mrad	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	0.001	0.000	-0.001
TB2	0.003	-0.001	0.001
TB3	-0.002	0.000	0.000
TB4	0.000	0.000	-0.001
TB5	-0.002	0.000	0.001
TB6			
TB7			

inches inches inches

OK

OK

OK

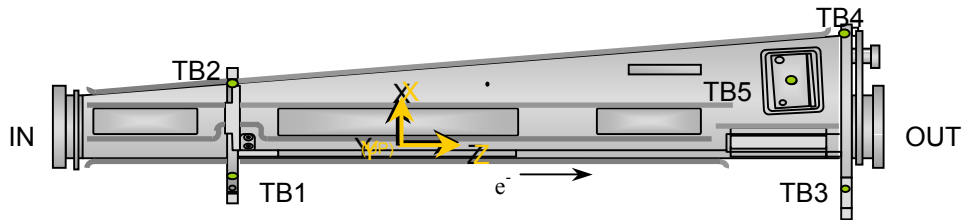
OK

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:	1.837	0.011	11.467 in
Delta:	-0.007	0.002	-0.004 in

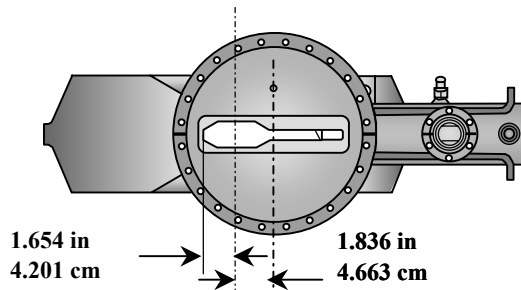
Diameter:

UPDATE

X and Y: ±0.006 in

Diameter: ±0.015 in

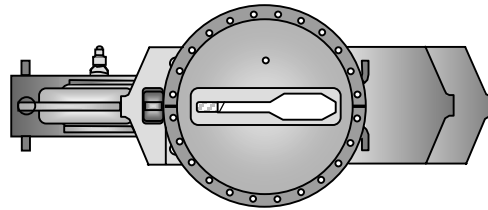
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



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

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Step 3: Upstream Flange Values					
Flange IN		Flange IN			
-29.380	Z	6.98	0.27	mrad	
1.804	X	Yaw	Pitch		
0.005	Y				
inches		Meas.	Actual	Nominal Diameter	
Diameter		11.466	9.966	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.					



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Step 4: QFC Chamber Length				
Length with SMR		Length	Nominal Length	
70.831	inches	69.331	69.417	OK
Description:				
Length should be between nominal value and nominal value - 0.125 in.				

