

Fiducials for QFC Std. Vac. Chamber

QFC004

Date:

8/16/01

Chamber:

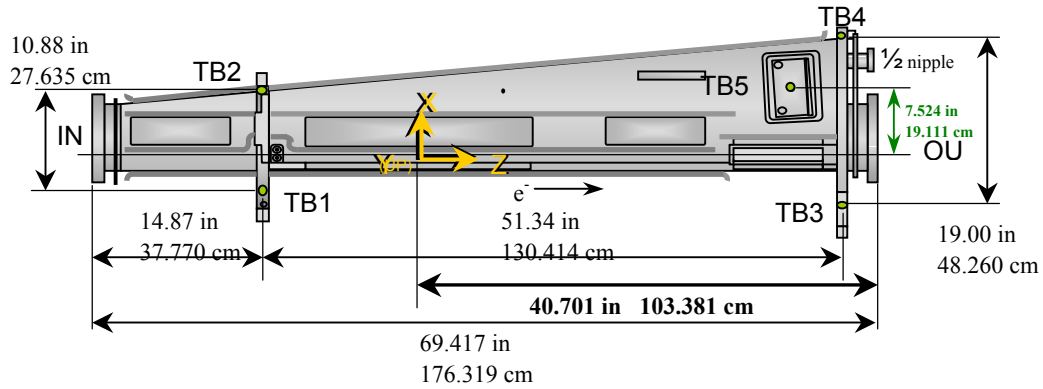
QFC004

Operator(s):

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Notes:

Trav. Step #1200: 8/8/01; #1280: 8/10/01. TBs 6 and 7 were not on orig. chamber



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.760	-3.390	4.420
TB2	-13.870	7.290	4.363
TB3	37.428	-5.456	4.422
TB4	37.540	13.315	2.980
TB5	33.407	7.551	2.095
TB6	13.361	2.604	2.375
TB7	13.407	2.625	-2.377

TB5 _x Absorber Check	
Measured	7.551
Nominal	7.524
Difference	0.027

STATUS: **OK**
< 0.100 in

Source: **US Step**

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

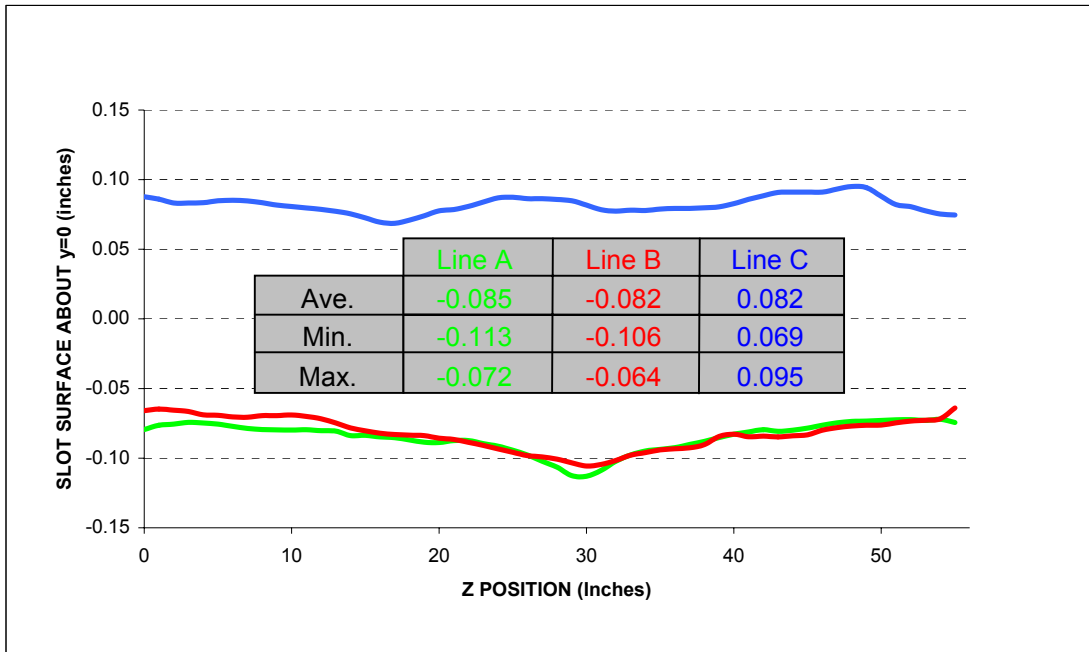
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.635	1.843	0.011	US
OUT	40.701	1.843	0.013	DS
NIP	N/A	10.522	-0.013	DS

Source: **US Step**

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

Fiducialization Step: (Traveler Step # 1380: 08/16/01)



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

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.756	-3.392	4.419	OUT	NIP
TB2	-13.874	7.291	4.364	Z	41.451 N/A in
TB3	37.426	-5.468	4.423	X	1.843 10.522 in
TB4	37.541	13.314	2.980	Y	0.013 -0.013 in
TB5	33.408	7.551	2.094		
TB6	0.000	0.000	0.000		
TB7	0.000	0.000	0.000		
	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	-6.72	0.51	11.471	9.971	9.970 OK
NIP	N/A	N/A	4.232	2.732	2.730 OK ??
	mrad	mrad	inches		± 0.015 in

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

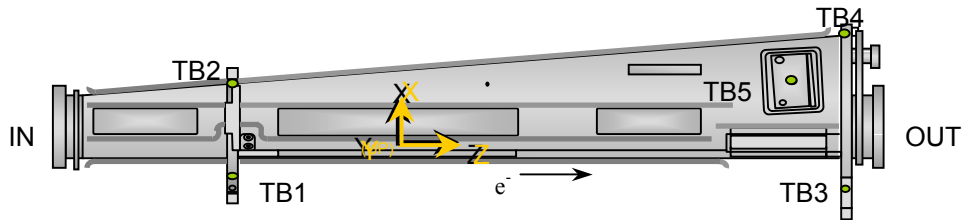
Step 1: Change in Fiducial Values Check

Fiducial	Delta Z	Delta X	Delta Y
TB1	-0.004	0.002	0.001
TB2	0.004	-0.002	-0.001
TB3	0.002	0.012	-0.001
TB4	-0.001	0.000	0.000
TB5	-0.001	0.000	0.001
TB6	13.361	2.604	2.375
TB7	13.407	2.625	-2.377
	inches	inches	inches

OK
OK
DELTA X?
OK
OK
DELTA Z?
DELTA Z?
±0.006 in

Description:
Difference between current and previous fiducial values.

Global: **UPDATE**



Step 2: Change in Downstream Flange Check

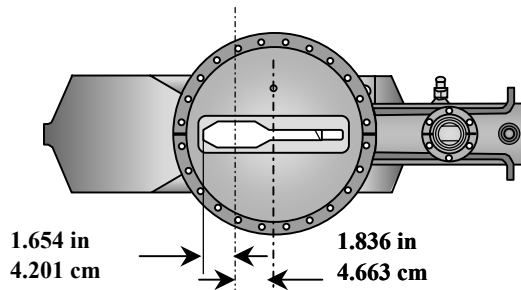
Flange	X	Y	Diameter
OUT			
New:	1.848	0.012	11.467 in
Delta:	0.005	-0.001	-0.004 in

Diameter: 9.967

OK

X and Y: ±0.006 in
Diameter: ±0.015 in

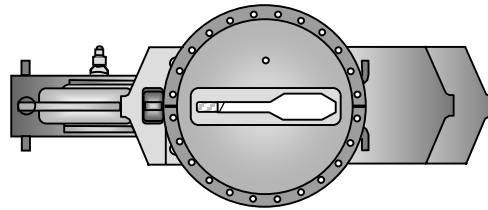
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



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

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Step 3: Upstream Flange Values					
Flange IN		Flange IN			
-29.385	Z	7.32	-5.18	mrad	
1.843	X	Yaw	Pitch		
0.011	Y				
inches		Meas.	Actual	Nominal Diameter	
Diameter		11.469	9.969	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	
70.836	inches	69.336	69.417	OK
Description:				
Length should be between nominal value and nominal value - 0.125 in.				

