

Fiducials for QFC Std. Vac. Chamber

QFC008

Date:

8/10/01

Chamber:

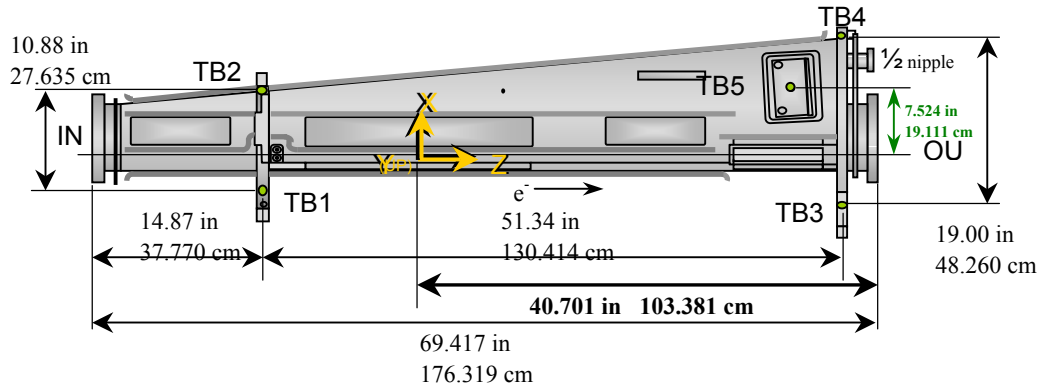
QFC008

Operator(s):

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Notes:

Trav. St #1200: 8/1/01; St #1280: 8/3/01. TBs 6 and 7 were not on orig. chamber



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.914	-3.507	4.401
TB2	-13.940	7.253	4.380
TB3	37.435	-5.437	4.394
TB4	37.527	13.229	2.970
TB5	33.440	7.558	2.065
TB6	13.430	2.606	2.374
TB7	13.443	2.565	-2.355

TB5 _x Absorber Check	
Measured	7.558
Nominal	7.524
Difference	0.034

STATUS: **OK**
< 0.100 in

Source: **US Step**

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

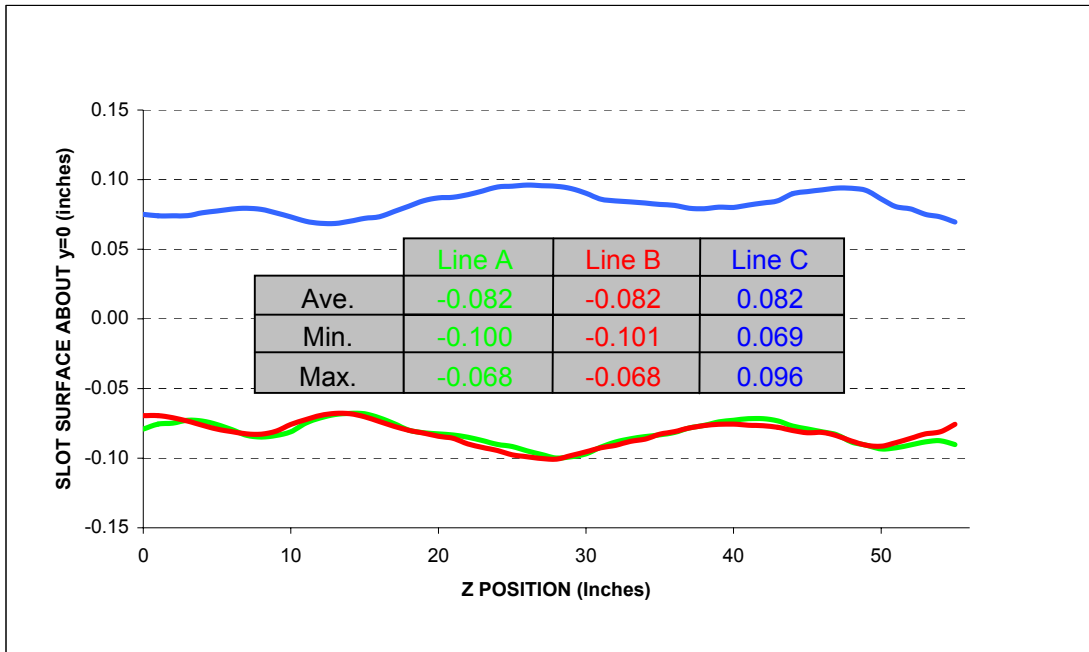
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.635	1.848	0.008	US
OUT	40.701	1.849	0.011	DS
NIP	N/A	10.520	-0.010	DS

Source: **RECHECK**

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

Fiducialization Step: (Traveler Step # 1380: 08/07/01)



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

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.916	-3.508	4.402	OUT	NIP
TB2	-13.940	7.253	4.379	Z	41.451 N/A in
TB3	37.435	-5.440	4.395	X	1.840 10.520 in
TB4	37.526	13.230	2.972	Y	-0.002 -0.010 in
TB5	33.441	7.561	2.063		
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	Status
			Meas.	Actual		
OUT	-9.05	-1.88	11.469	9.969	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

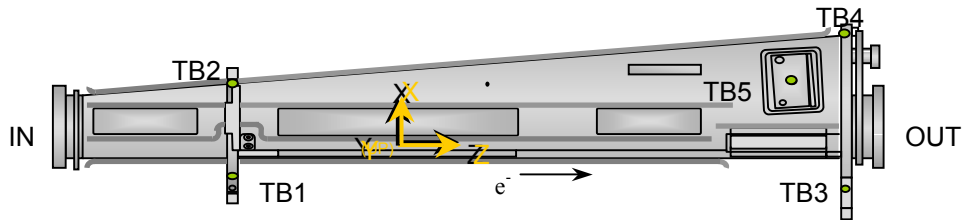
Step 1: Change in Fiducial Values Check

Fiducial	Delta Z	Delta X	Delta Y
TB1	0.002	0.001	-0.001
TB2	0.000	0.000	0.001
TB3	-0.001	0.004	-0.001
TB4	0.001	-0.001	-0.002
TB5	-0.001	-0.003	0.003
TB6	13.430	2.606	2.374
TB7	13.443	2.565	-2.355
	inches	inches	inches

OK
OK
OK
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

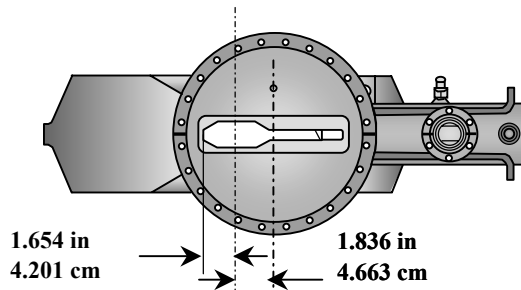
Flange	X	Y	Diameter
OUT			
New:	1.844	0.019	11.468 in
Delta:	0.004	0.021	-0.001 in

Diameter:

UPDATE

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

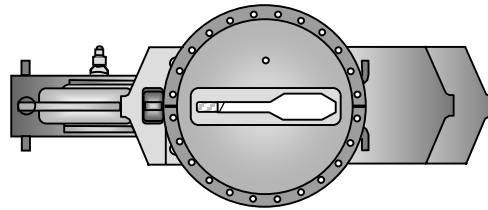
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



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

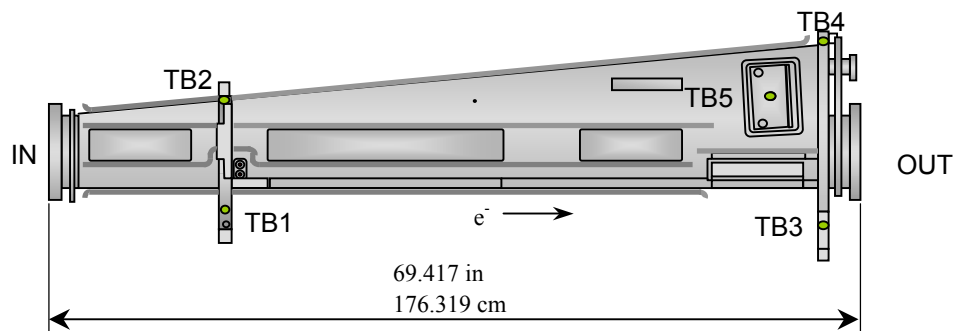
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Status

Step 3: Upstream Flange Values					
Flange IN		Flange IN			
-29.385	Z	7.37	-3.26	mrad	
1.848	X	Yaw	Pitch		
0.008	Y				
inches		Meas.	Actual	Nominal Diameter	
Diameter		11.467	9.967	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.				



Recheck-All Step:

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Step 1: Change in Fiducial Values Recheck

Fiducial	Delta Z	Delta X	Delta Y
TB1	-0.011	-0.001	0.000
TB2	0.004	0.002	0.000
TB3	0.001	0.001	0.000
TB4	-0.005	0.000	0.000
TB5	0.001	-0.002	0.000
TB6			
TB7			

inches inches inches

DELTA Z?

OK

OK

OK

OK

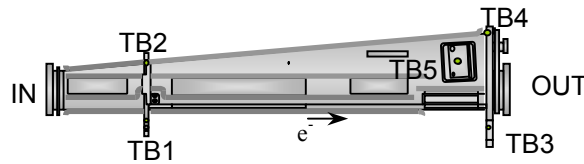
PENDING

PENDING

±0.006 in

Description:
Difference between current and previous fiducial values.
Note: Data entered here is based on changes from the last survey.

Global: **PENDING**



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Step 2: Change in US and DS Flange Recheck

Flange	X	Y	Diameter
OUT			
New:	1.849	0.011	11.454 in
Delta:	0.005	-0.008	-0.014 in

Diameter: **9.954**

UPDATE

X and Y: ±0.006 in

Diameter: ±0.015 in

Recheck

Flange	X	Y	Diameter
IN			
New:	1.845	0.007	11.470 in
Delta:	-0.003	-0.001	0.003 in

Diameter: 9.970

OK

X and Y: ±0.006 in

Diameter: ±0.015 in

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

