

Fiducials for QFC Std. Vac. Chamber

QFC016

Date:

1/21/02

Chamber:

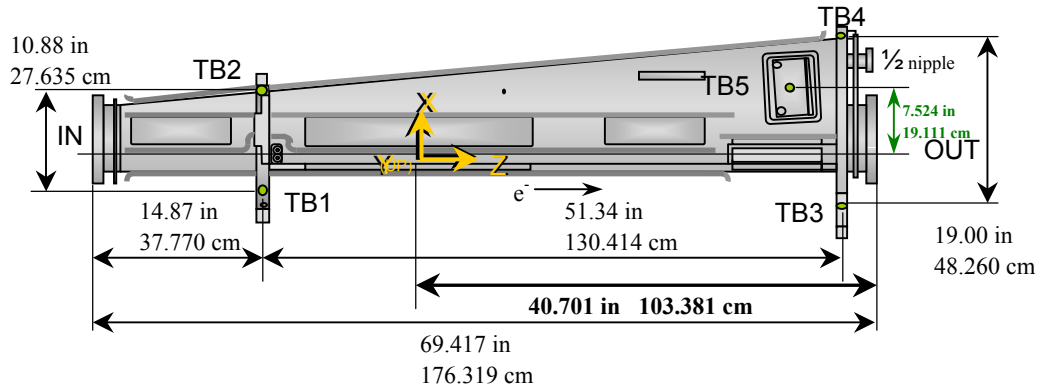
QFC016

Operator(s):

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Notes:

Traveler Step #1200: 12/13/01; #1280: 01/07/02 (#1380 & #1465 see below)



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.809	-3.462	4.403
TB2	-13.816	7.269	4.369
TB3	37.475	-5.458	4.411
TB4	37.581	13.287	2.948
TB5	33.445	7.553	2.068
TB6			
TB7			

TB5 _x Absorber Check	
Measured	7.553
Nominal	7.524
Difference	0.029

STATUS: **OK**
< 0.100 in

Source: **US Step**

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

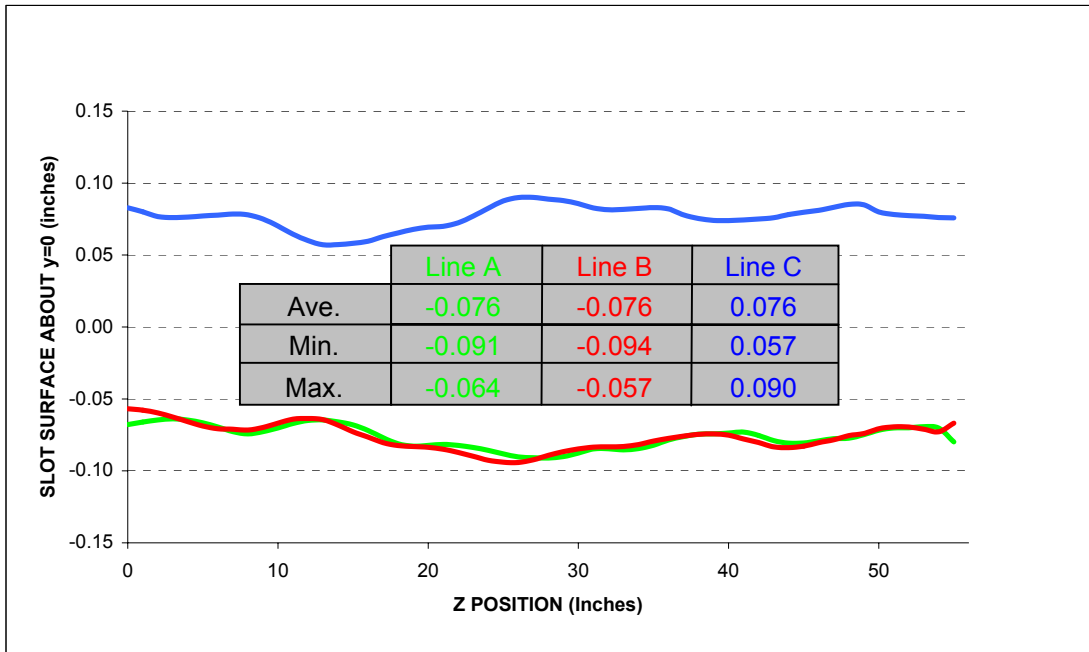
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.637	1.837	0.019	US
OUT	40.701	1.837	-0.026	DS
NIP	N/A	10.519	-0.065	DS

Source: **US Step**

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

Fiducialization Step: (Traveler Step # 1380: 01/21/02)



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

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.809	-3.462	4.403	OUT	NIP
TB2	-13.816	7.269	4.369	Z	41.451 N/A in
TB3	37.475	-5.458	4.411	X	1.837 10.519 in
TB4	37.581	13.287	2.948	Y	-0.026 -0.065 in
TB5	33.445	7.553	2.068		
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	-10.93	4.04	11.469	9.969	9.970	OK
NIP	N/A	N/A	4.229	2.729	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	0.001	0.001
TB2	0.001	-0.001	-0.001
TB3	0.000	0.002	-0.001
TB4	-0.001	-0.001	0.000
TB5	0.000	-0.001	0.001
TB6			
TB7			

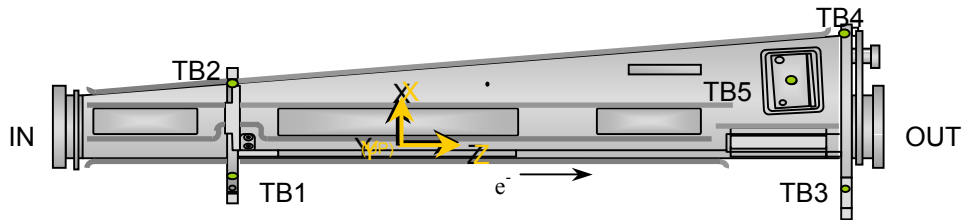
inches inches inches

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

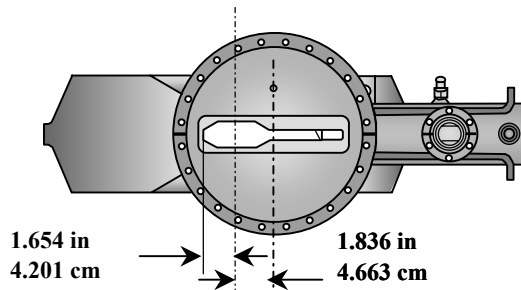
Flange	X	Y	Diameter
OUT			
New:	1.835	-0.023	11.468 in
Delta:	-0.002	0.003	-0.002 in

Diameter: 9.968

OK

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

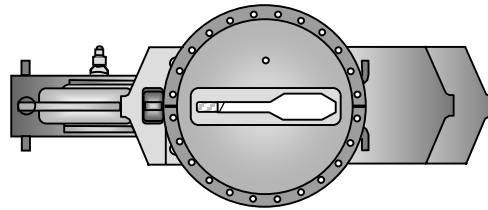
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



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

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Step 3: Upstream Flange Values					
Flange IN		Flange IN			
-29.387	Z	5.66	3.50	mrad	
1.837	X	Yaw	Pitch		
0.019	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	
70.838	inches	69.338	69.417	OK
Description:				
Length should be between nominal value and nominal value - 0.125 in.				

