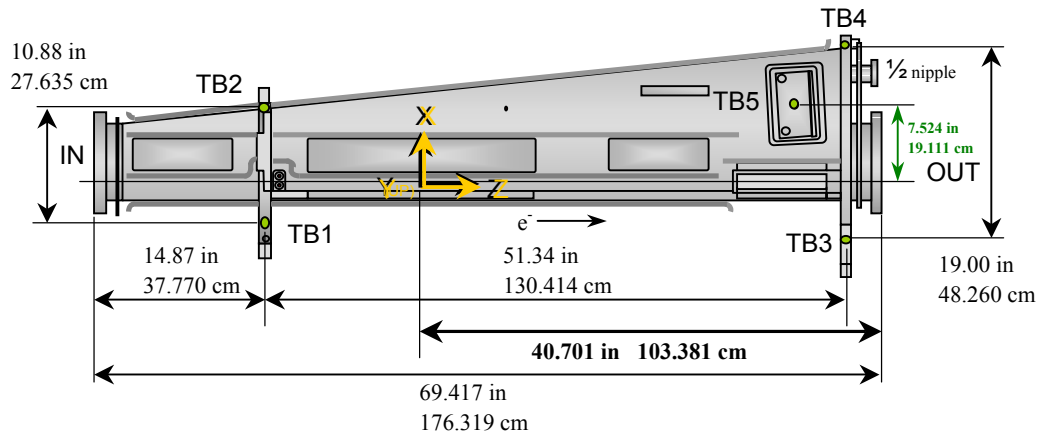


Fiducials for QFC Std. Vac. Chamber

QFC010

Date: 10/15/01 Chamber: QFC010 Operator(s): M. Gaydosh
H. Imfeld

Notes: Traveler Step #1200: 09/20/01; #1280: 10/05/01; Steps 1380 & 1465 dates below



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.780	-3.537	4.418
TB2	-13.815	7.246	4.365
TB3	37.433	-5.479	4.405
TB4	37.500	13.254	2.957
TB5	33.422	7.559	2.074
Source	RECHECK		

TB5 _x Absorber Check	
Measured	7.559
Nominal	7.524
Difference	0.035

STATUS: **OK**
< 0.100 in

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

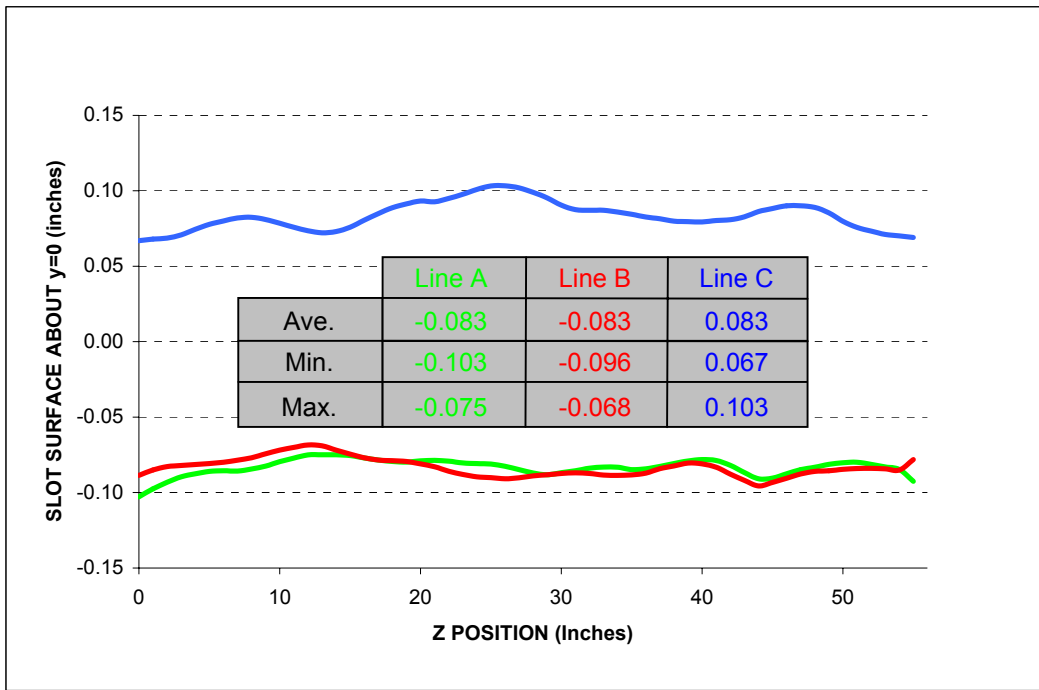
Flange Positions: (inches)

Flange	Z	X	Y	Source
IN	-28.645	1.820	-0.022	US
OUT	40.701	1.837	0.009	DS
NIP	N/A	10.521	0.002	DS

Source: **RECHECK**

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

Fiducialization Step: (Traveler Step # 1380: 10/15/01; 10/19/01; 10/22/01)



QFC010

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

Fiducial	Z	X	Y	Downstream Flanges	
TB1	-13.780	-3.537	4.418		
TB2	-13.815	7.246	4.365		
TB3	37.433	-5.479	4.405	Z	OUT NIP in
TB4	37.500	13.254	2.957	X	1.840 10.521 in
TB5	33.422	7.559	2.074	Y	0.001 0.002 in
	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	-8.24	1.39	11.464	9.964	9.970	OK
NIP	N/A	N/A	4.224	2.724	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	0.000	0.000	0.000
TB2	-0.002	0.000	0.000
TB3	0.000	0.000	0.000
TB4	0.002	0.000	0.000
TB5	0.000	0.000	0.000

inches inches inches

OK

OK

OK

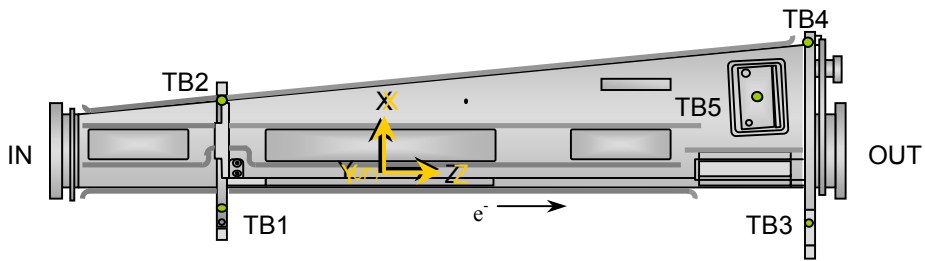
OK

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:	1.840	0.004	11.470 in
Delta:	0.000	0.003	0.006 in

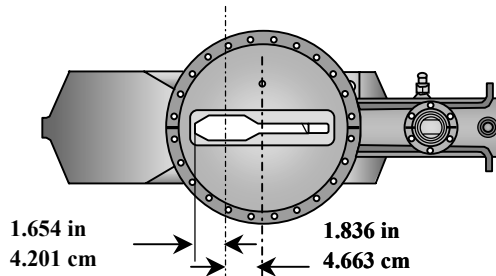
Diameter:

OK

X and Y: ±0.006 in

Diameter: ±0.015 in

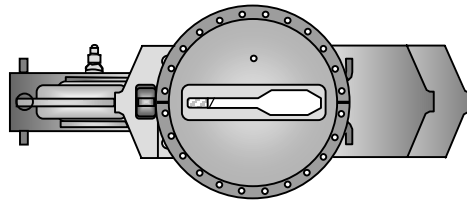
Description:
Difference between current and previous fiducial values and diameter. If the current diameter is acceptable, only then will the corresponding X and Y vals be updated if either exceed the tolerance.



Final "Upstream Flange" Step (continued):

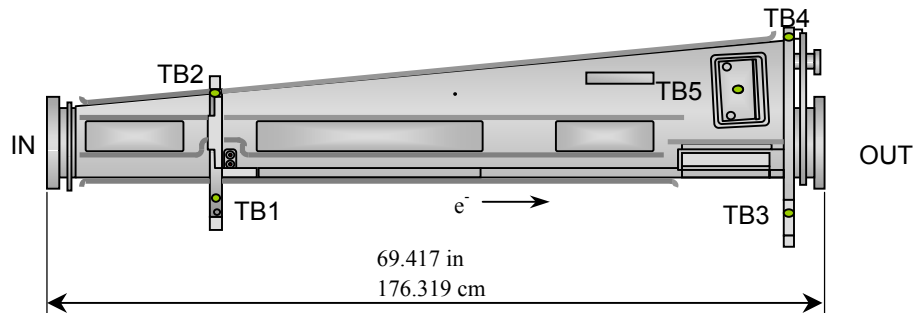
QFC010
Status

<u>Step 3: Upstream Flange Values</u>			
Flange IN		Flange IN	
-29.395	Z	5.45	-2.64 mrad
1.832	X	Yaw	Pitch
-0.012	Y		
inches		Meas.	Actual
Diameter		11.469	9.969 in
		Nominal Diameter	
		9.970	OK
		±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.			



QFC010
Status

<u>Step 4: QFC Chamber Length</u>	
Length with SMR	Length
70.846 inches	69.346 inches
	Nominal Length
	69.417
	OK
Description:	
Length should be between nominal value and nominal value - 0.125 in.	



Recheck-All Step:

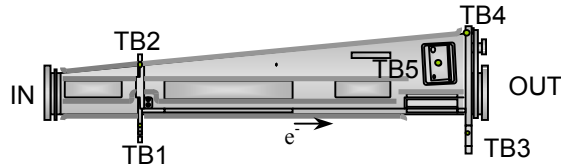
QFC010
Status

Step 1: Change in Fiducial Values *Recheck*

Fiducial	Delta Z	Delta X	Delta Y
TB1	-0.002	0.000	-0.001
TB2	-0.002	0.001	0.001
TB3	0.003	0.001	0.000
TB4	0.002	0.001	-0.001
TB5	-0.001	-0.002	0.000
	inches	inches	inches

OK
OK
OK
OK
OK
 ±0.006 in

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



QFC010
Status

Step 2: Change in US and DS Flange *Recheck*

Flange	X	Y	Diameter
OUT			
New:	1.837	0.009	11.471 in
Delta:	-0.003	0.008	0.008 in
<i>Recheck</i>			
IN			
New:	1.820	-0.022	11.472 in
Delta:	-0.012	-0.011	0.003 in

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

Diameter:
UPDATE
 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.

