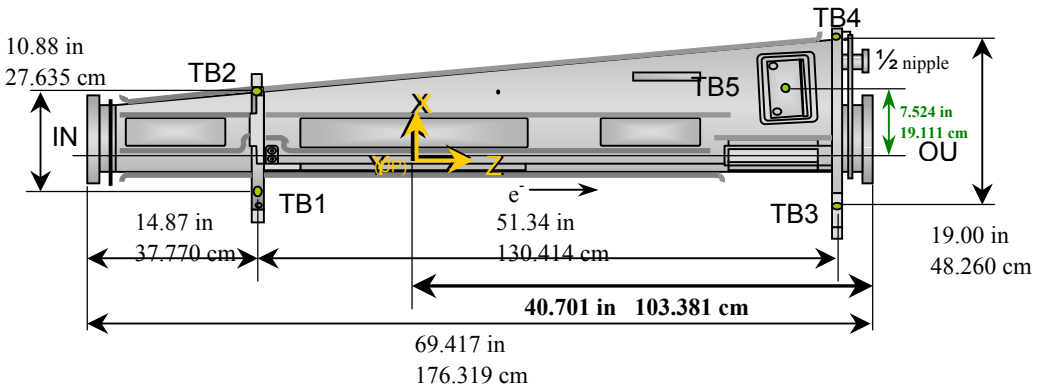
Fiducials for QFC Std. Vac. Chamber | *QFC001*

Date: 11/19/01

Chamber: QFC001

Operator(s): F. Gaudreault, L. Griffin

Notes: This was a "guinea pig" chamber. TBs 6 and 7 were not on original chamber



Fiducial Coordinates for QFC Standard Vacuum Chamber: (inches)

Fiducial	Z	X	Y
TB1	-13.964	-3.412	4.410
TB2	-13.946	7.233	4.380
TB3	37.441	-5.465	4.429
TB4	37.588	13.354	3.002
TB5	33.560	7.552	2.590
TB6	13.370	2.604	2.336
TB7	13.383	2.617	-2.336

$TB5_x$ Absorber Check	
Measured	7.552
Nominal	**7.524**
Difference	**0.028**

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)

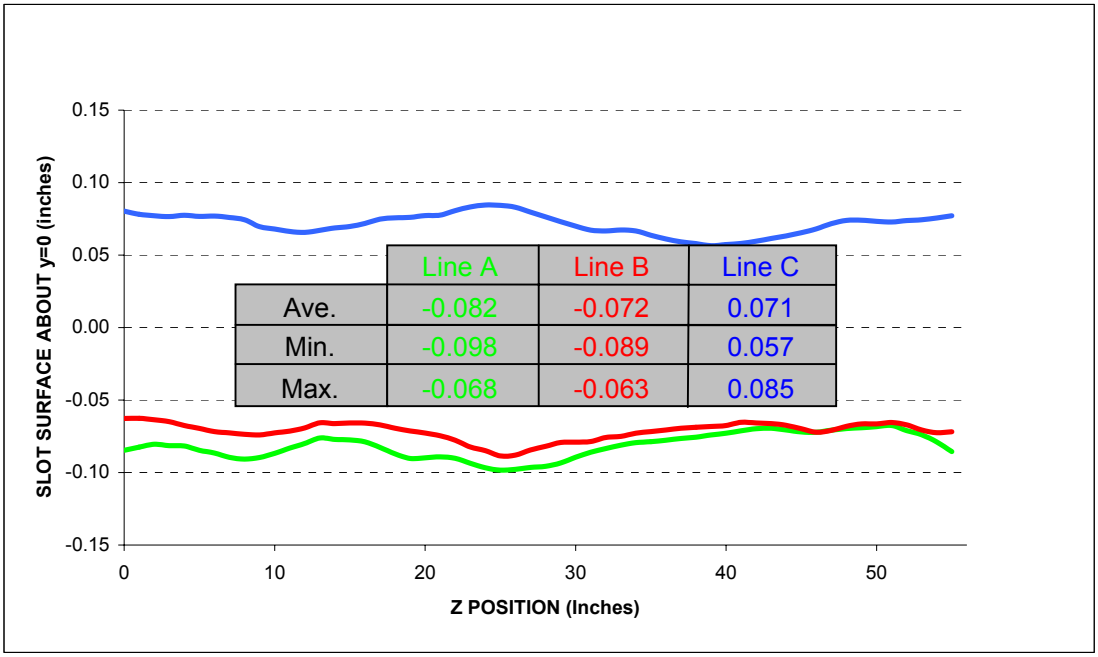
Flange	Z	X	Y	
IN	-28.647	1.834	0.012	US
OUT	40.701	1.851	0.022	DS
NIP	N/A	10.538	-0.013	DS

Source: **US Step**

Description:

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

Fiducialization Step: (Traveler Step # 1380)



QFC001

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

Fiducial	Z	X	Y
TB1	-13.964	-3.422	4.410
TB2	-13.941	7.243	4.380
TB3	37.487	-5.473	4.429
TB4	37.583	13.359	2.999
TB5	33.560	7.557	2.594
TB6	0.000	0.000	0.000
TB7	0.000	0.000	0.000
	inches	inches	inches

Downstream Flanges

	OUT	NIP	
Z	41.451	N/A	in
X	1.852	10.538	in
Y	**0.031**	-0.013	in

	Xout	Yout
Nominals:	1.836	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 Meas.	Diameter Actual	Nominal Diameter	Status	
OUT	-7.49	**5.70**	11.465	9.965	**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 mrads. Pitch ±3 mrads. Diameter difference ±0.015 in

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

QFC001 Status

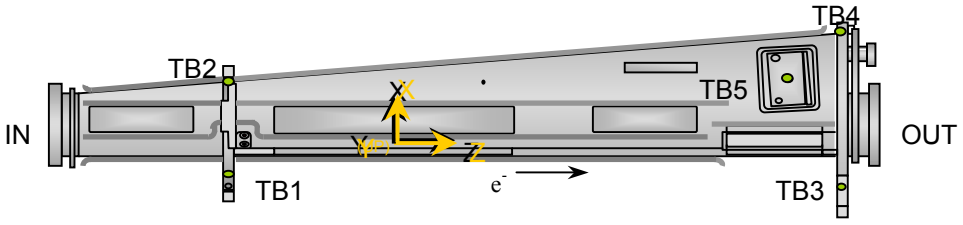
Step 1: *Change in Fiducial Values Check*

Fiducial	Delta Z	Delta X	Delta Y	QFC001 Status
TB1	0.001	**0.010**	0.000	DELTA X?
TB2	-0.005	**-0.010**	0.000	DELTA X?
TB3	**-0.045**	**0.009**	0.000	DELTA Z?
TB4	0.005	-0.004	0.003	OK
TB5	0.000	-0.004	-0.003	OK
TB6	**13.370**	**2.604**	**2.336**	DELTA Z?
TB7	**13.383**	**2.617**	**-2.336**	DELTA Z?
	inches	inches	inches	±0.006 in

Description:

Difference between current and previous fiducial values.

Global: UPDATE



QFC001 Status

Step 2: *Change in Downstream Flange Check*

Flange OUT	X	Y	Diameter	
New:	1.851	**0.022**	11.469	in
Delta:	-0.001	**-0.009**	0.004	in

Diameter: 9.969

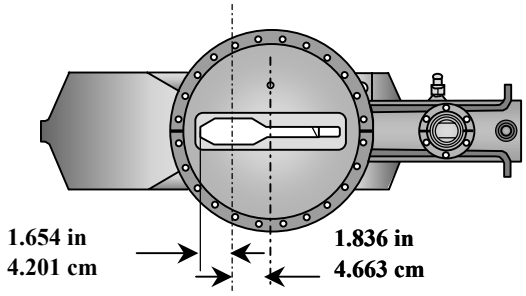
UPDATE

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):

QFC001 Status

Step 3: *Upstream Flange Values*

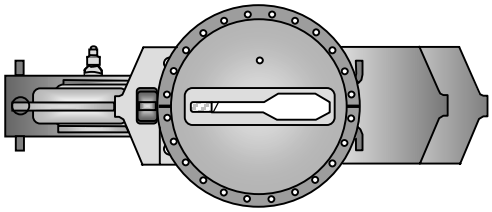
Flange IN		Flange IN		
-29.397	**Z**	8.65	**4.12**	mrad
1.834	**X**	**Yaw**	**Pitch**	
0.012	**Y**			
inches		Meas.	Actual	
	Diameter	11.463	9.963	in

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 mrads. Pitch ±3 mrads.



QFC001 Status

Step 4: *QFC Chamber Length*

Length **with SMR**	Length	
70.848	69.348	inches

Nominal Length: 69.417 **OK**

Description:

Length should be between nominal value and nominal value - 0.125 in.