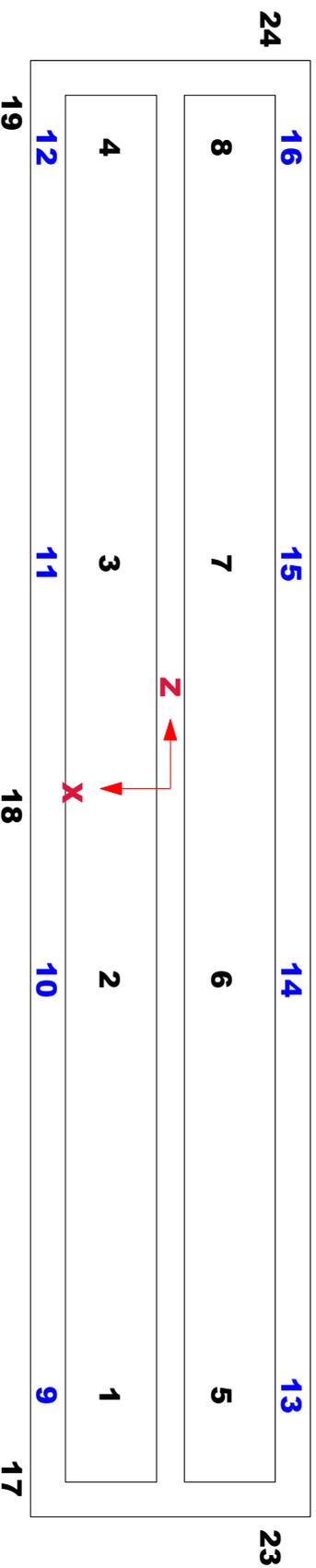


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	430.206	0.047	-1489.371
TB 10	430.161	-0.073	-523.608
TB 11	430.167	-0.139	523.873
TB 12	430.147	-0.226	1488.721
TB 13	-430.043	-0.210	-1489.062
TB 14	-430.172	0.012	-524.105
TB 15	-430.216	-0.077	524.529
TB 16	-430.153	-0.129	1489.691

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.641	136.099	-1665.675
TB 2	98.290	136.171	-556.013
TB 3	98.679	136.142	555.881
TB 4	98.328	136.119	1666.123
TB 5	-98.041	135.873	-1666.358
TB 6	-98.136	135.975	-556.404
TB 7	-98.309	135.979	555.501
TB 8	-98.464	135.861	1665.735
TB 17	473.418	-229.538	-1584.555
TB 18	473.605	-227.078	85.193
TB 19	472.903	-228.244	1579.224
TB 23	-404.542	-229.743	-1711.341
TB 24	-405.722	-228.231	1706.728



**Gridler centerline in reference to Pointed Magnets**

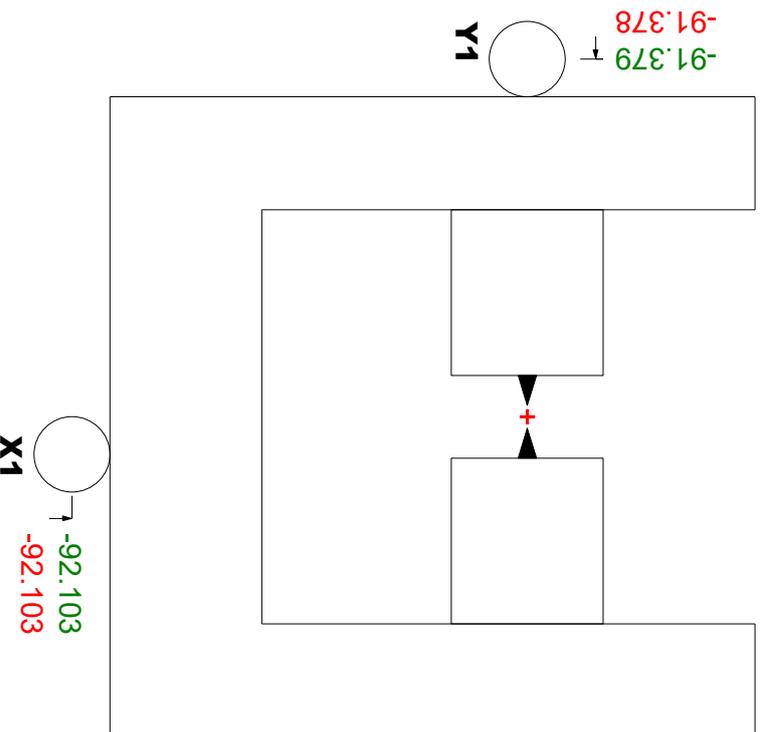
Dimensions in MM, Angles in Milliradians

	<b>HGVPU - Fiducialization at 9mm Gap, Tooling Balls</b>				S/N : <b>HXU_011</b>
	Nominal Gap : <b>9.000</b>	US Full : <b>9.000</b>	DS Full : <b>8.9998</b>	Date : <b>01-JUL-2020</b>	Data Set : <b>0001</b>
Nom. Taper : <b>0.000</b>	US Wall Half : <b>4.4999</b>	DS Wall Half : <b>4.4979</b>	US Aisle Half : <b>4.4992</b>	DS Aisle Half : <b>4.5000</b>	Run : <b>FINAL</b>
					Cam Pos. : <b>B</b>

## PM 2

### Up Stream

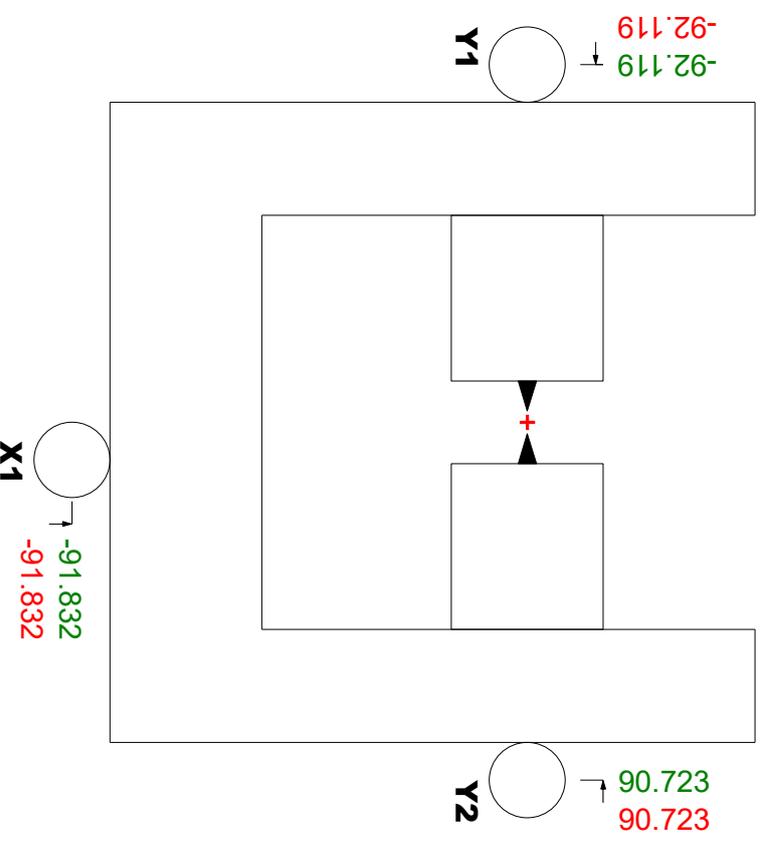
Z Center = -1842.358



## PM 3

### Down Stream

Z Center = 1842.344



**Red values are in Girder Coordinate System, includes Roll component from Girder**  
**Green values are in End Magnet Coordinate System**  
**Girder centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



## HGVPU - Fiducialization, Pointed End Magnet Values

Nominal Gap :	9.000	US Full :	9.000	DS Full :	8.9998
Nom. Taper :	0.000	US Wall Half :	4.4999	DS Wall Half :	4.4979
		US Aisle Half :	4.4992	DS Aisle Half :	4.5000

S/N	: HXU_011
Date	: 01-JUL-2020
Data Set	: 0001
Run	: FINAL
Cam Pos.	: B