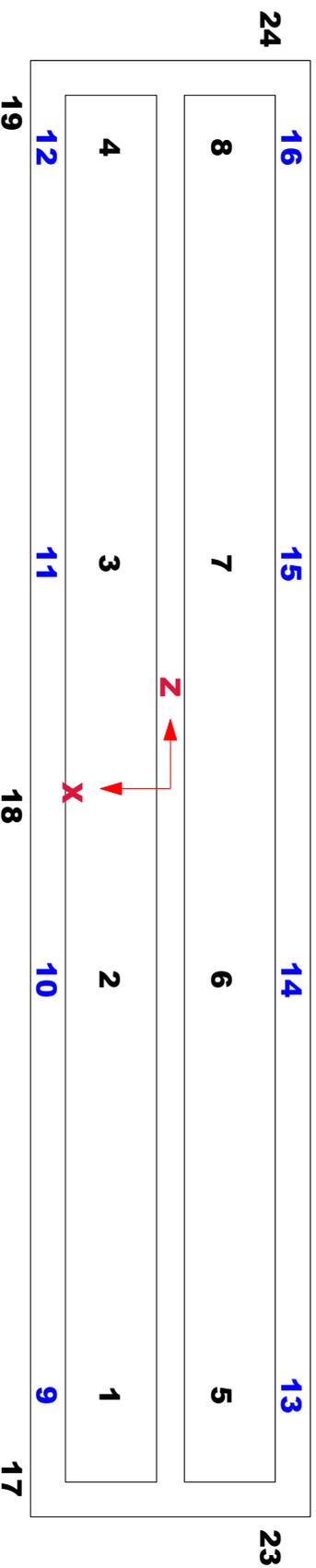


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	430.152	-0.138	-1489.272
TB 10	430.141	0.125	-524.592
TB 11	430.378	-0.048	524.457
TB 12	430.250	-0.034	1490.223
TB 13	-430.150	-0.122	-1489.416
TB 14	-430.231	-0.205	-525.358
TB 15	-430.318	0.274	524.872
TB 16	-430.109	-0.170	1489.094

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.395	136.084	-1665.910
TB 2	98.852	136.162	-555.683
TB 3	98.717	136.175	556.490
TB 4	98.445	136.118	1666.592
TB 5	-98.378	136.027	-1666.262
TB 6	-98.319	136.134	-556.324
TB 7	-98.822	136.158	555.795
TB 8	-98.713	136.149	1665.639
TB 17	473.293	-230.763	-1582.676
TB 18	472.923	-228.072	85.716
TB 19	471.641	-230.939	1578.905
TB 23	-404.309	-230.463	-1710.408
TB 24	-404.765	-230.048	1707.986



**Gridler centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



**HGVPU - Fiducialization at 9mm Gap, Tooling Balls**

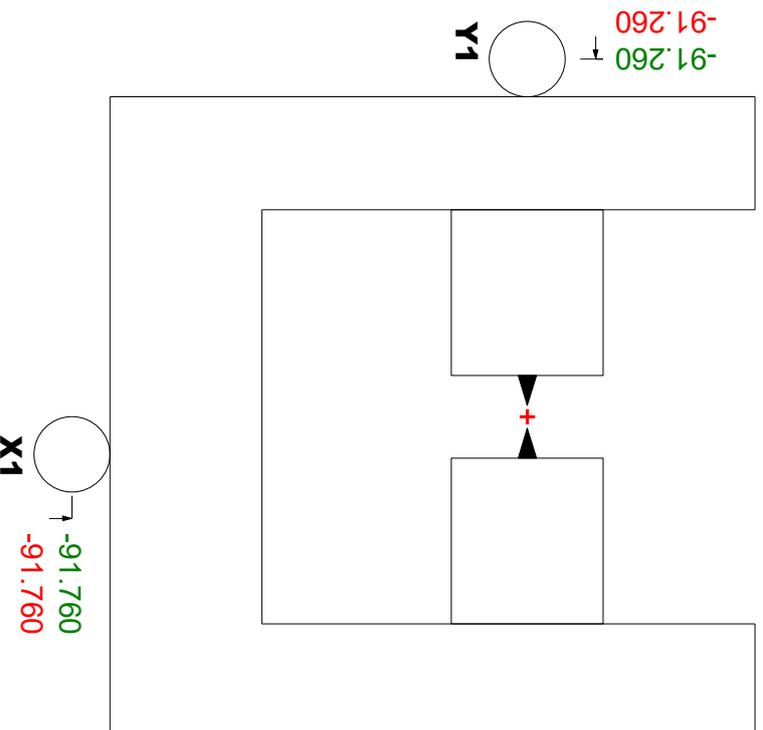
Nominal Gap :	9.000	US Full :	9.000	DS Full :	8.9999
Nom. Taper :	0.000	US Wall Half :	4.5009	DS Wall Half :	4.4987
		US Aisle Half :	4.4991	DS Aisle Half :	4.5011

S/N	: HXU_014
Date	: 25-AUG-2020
Data Set	: 0001
Run	: FINAL
Cam Pos.	: B

## PM 2

### Up Stream

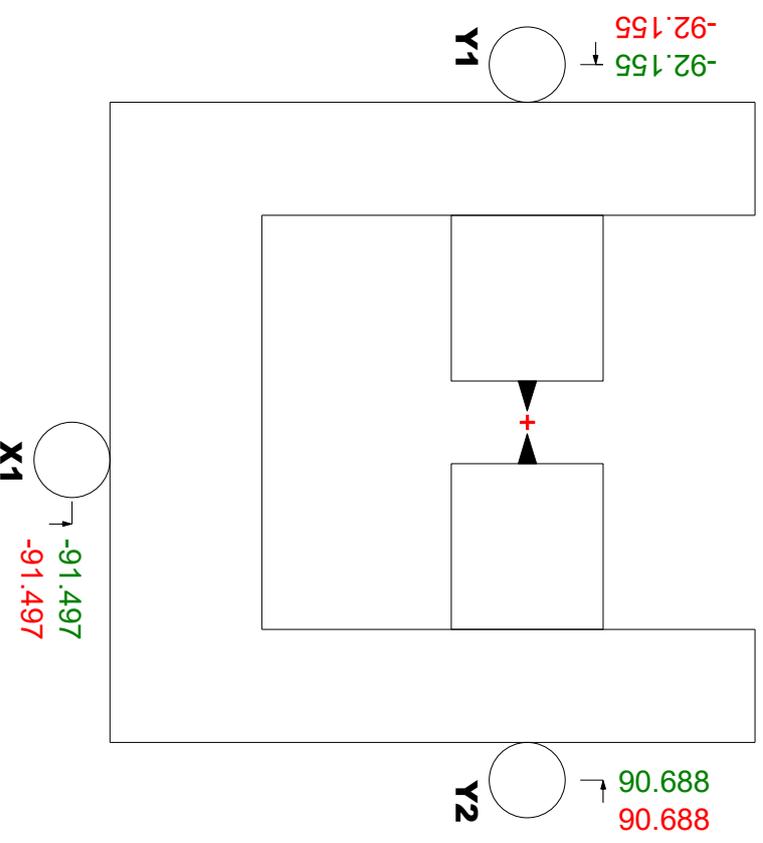
Z Center = -1842.166



## PM 3

### Down Stream

Z Center = 1842.471



**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 :	8.9999
Nom. Taper :	0.000	US Wall Half :	4.5009	DS Wall Half :	4.4987
		US Aisle Half :	4.4991	DS Aisle Half :	4.5011

S/N	: HXU_014
Date	: 25-AUG-2020
Data Set	: 0001
Run	: FINAL
Cam Pos.	: B