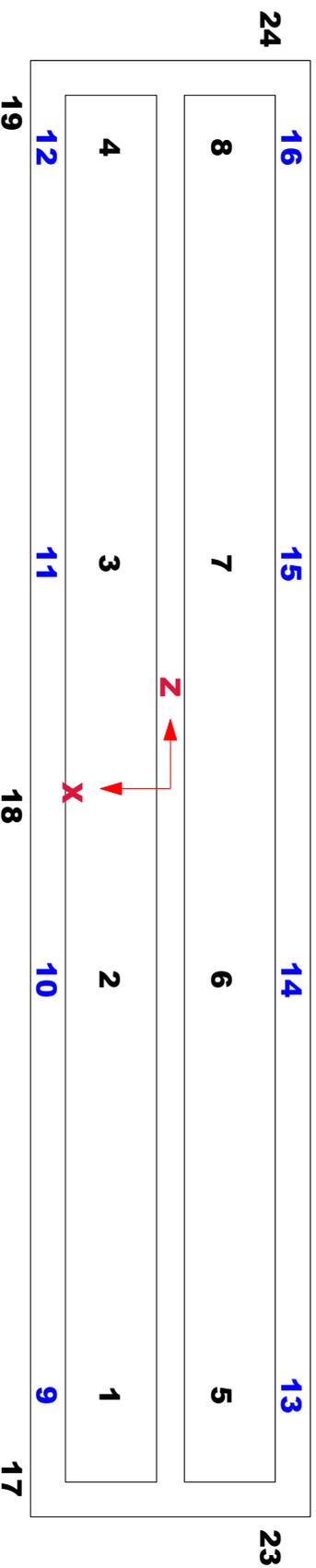


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	430.164	-0.008	-1489.477
TB 10	430.256	0.337	-523.917
TB 11	430.261	0.426	524.156
TB 12	430.214	0.563	1489.555
TB 13	-430.052	0.452	-1489.668
TB 14	-430.108	0.012	-524.273
TB 15	-430.071	0.075	523.989
TB 16	-429.985	0.231	1489.483

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.738	136.821	-1666.029
TB 2	98.525	136.059	-556.083
TB 3	98.758	136.217	556.008
TB 4	98.305	136.410	1665.927
TB 5	-98.365	136.887	-1665.937
TB 6	-98.200	136.126	-555.962
TB 7	-98.273	136.055	555.999
TB 8	-98.422	135.863	1665.754
TB 17	471.948	-228.286	-1582.708
TB 18	471.226	-228.391	84.120
TB 19	469.135	-228.271	1579.247
TB 23	-405.075	-229.760	-1709.047
TB 24	-407.212	-230.085	1704.704



**Gridler centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



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

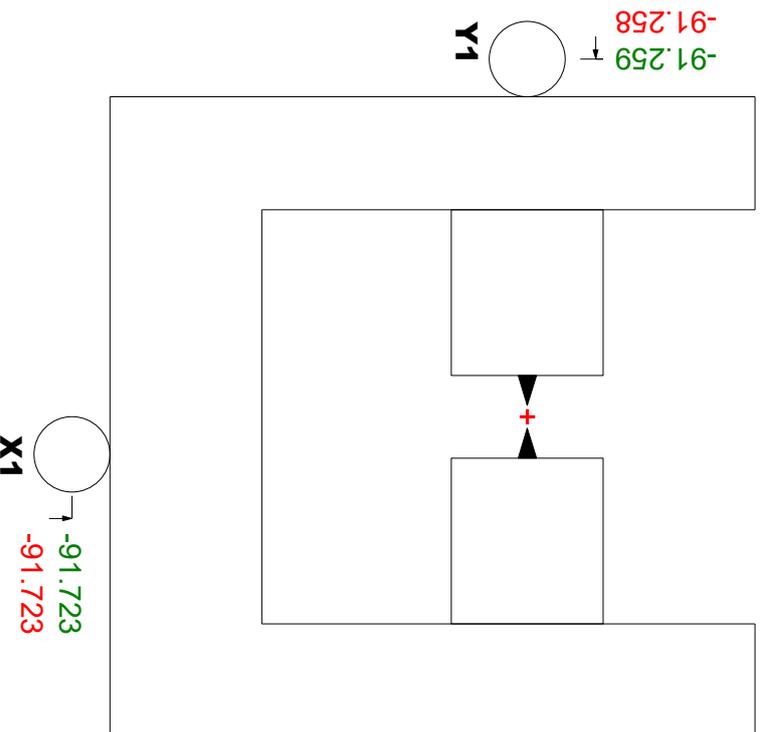
Nominal Gap :	9.000	US Full :	9.000	DS Full :	8.9998
Nom. Taper :	0.000	US Wall Half :	4.5018	DS Wall Half :	4.5019
		US Aisle Half :	4.5004	DS Aisle Half :	4.5034

S/N	: HXU_017
Date	: 28-OCT-2022
Data Set	: 0002
Run	: FINAL
Cam Pos.	: B

## PM 2

### Up Stream

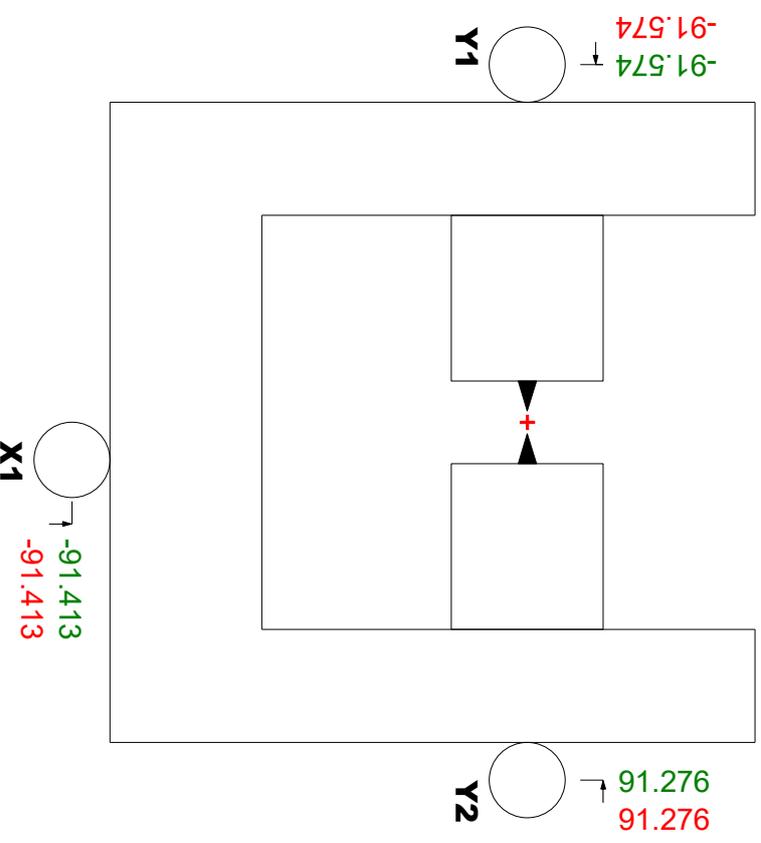
Z Center = -1842.575



## PM 3

### Down Stream

Z Center = 1841.981



**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 :	4.5018	DS Wall Half :	4.5019
		US Aisle Half :	4.5004	DS Aisle Half :	4.5034

S/N	: HXU_017
Date	: 28-OCT-2022
Data Set	: 0002
Run	: FINAL
Cam Pos.	: B