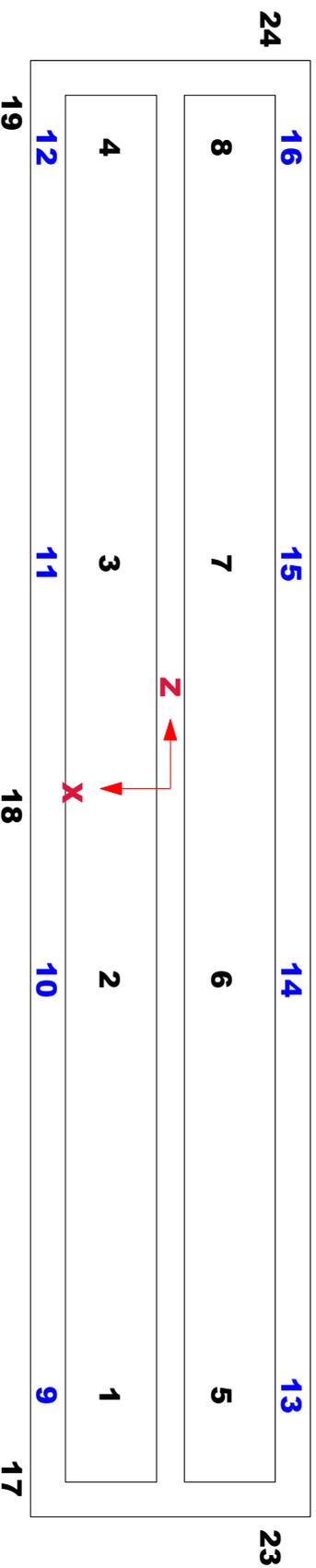


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	430.132	-0.091	-1489.343
TB 10	430.157	-0.119	-524.164
TB 11	430.259	0.139	524.405
TB 12	430.221	0.311	1489.639
TB 13	-430.101	-0.187	-1489.836
TB 14	-430.065	-0.172	-523.985
TB 15	-430.079	-0.301	524.549
TB 16	-430.044	-0.209	1489.839

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.691	136.137	-1665.758
TB 2	98.921	136.152	-555.510
TB 3	98.955	136.226	556.184
TB 4	98.634	136.353	1666.427
TB 5	-98.488	136.096	-1666.203
TB 6	-98.444	135.949	-556.138
TB 7	-98.404	135.950	555.945
TB 8	-98.399	136.023	1665.885
TB 17	471.282	-229.128	-1581.720
TB 18	470.520	-228.780	86.976
TB 19	470.647	-229.219	1577.876
TB 23	-406.215	-232.503	-1709.799
TB 24	-407.205	-231.938	1707.775



**Gridler centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



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

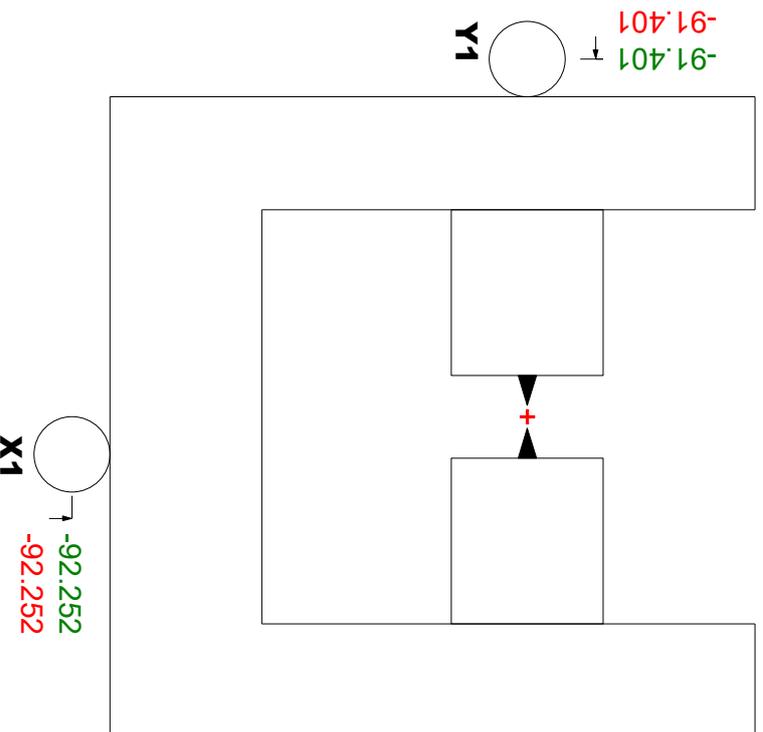
Nominal Gap :	9.000	US Full :	9.000	DS Full :	9.0002
Nom. Taper :	0.000	US Wall Half :	4.5014	DS Wall Half :	4.5002
		US Aisle Half :	4.4997	DS Aisle Half :	4.5010

S/N	: HXU_001
Date	: 06-AUG-2020
Data Set	: 0002
Run	: FINAL
Cam Pos.	: B

## PM 2

### Up Stream

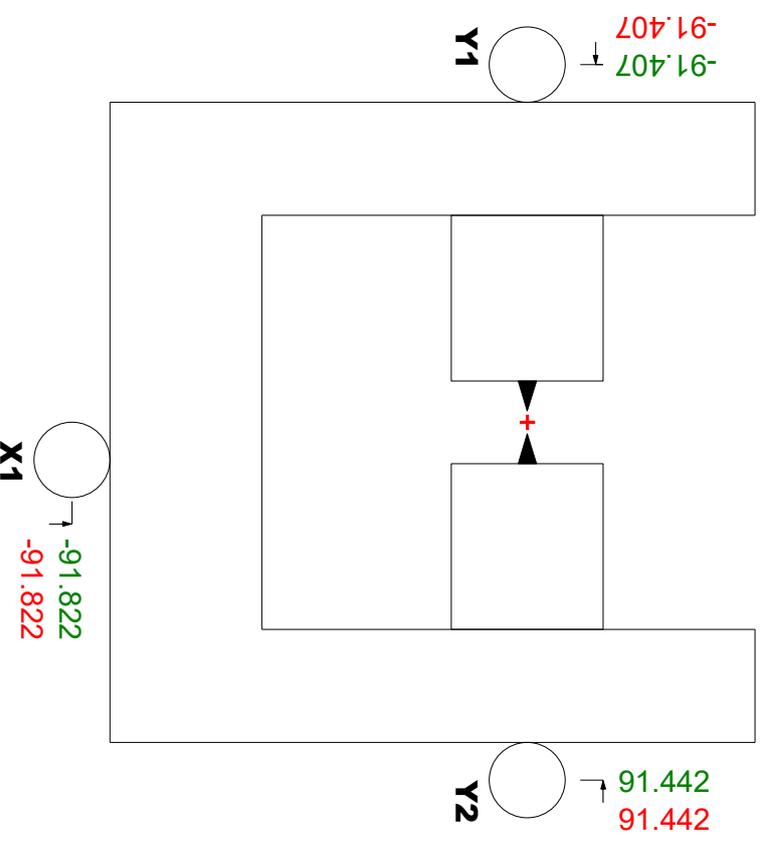
Z Center = -1842.431



## PM 3

### Down Stream

Z Center = 1842.365



**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 :	9.0002
Nom. Taper :	0.000	US Wall Half :	4.5014	DS Wall Half :	4.5002
		US Aisle Half :	4.4997	DS Aisle Half :	4.5010

S/N	: HXU_001
Date	: 06-AUG-2020
Data Set	: 0002
Run	: FINAL
Cam Pos.	: B