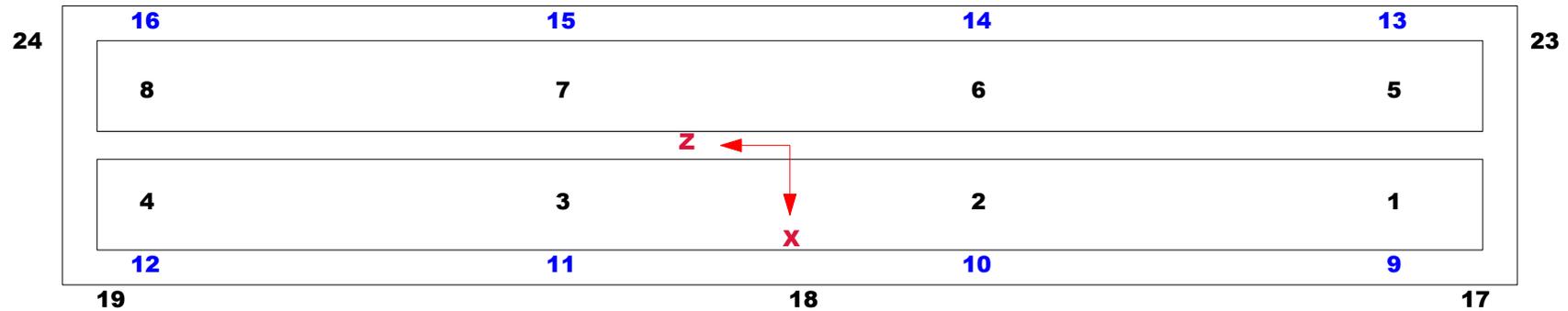


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	429.997	-0.696	-1489.563
TB 10	430.078	-0.456	-524.085
TB 11	430.116	-0.655	524.276
TB 12	430.071	-0.616	1489.590
TB 13	-430.285	0.355	-1489.842
TB 14	-430.349	0.420	-524.674
TB 15	-430.372	0.644	524.194
TB 16	-430.333	0.357	1489.188

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.704	135.894	-1665.772
TB 2	98.723	135.929	-555.918
TB 3	98.683	135.966	556.269
TB 4	98.680	136.014	1666.024
TB 5	-98.353	136.307	-1666.135
TB 6	-98.692	136.291	-556.495
TB 7	-98.586	136.295	555.942
TB 8	-98.483	136.297	1665.553
TB 17	471.132	-231.122	-1580.097
TB 18	471.990	-229.540	87.927
TB 19	472.331	-230.139	1580.605
TB 23	-406.450	-231.288	-1708.476
TB 24	-404.212	-232.969	1707.876



**Grider centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



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

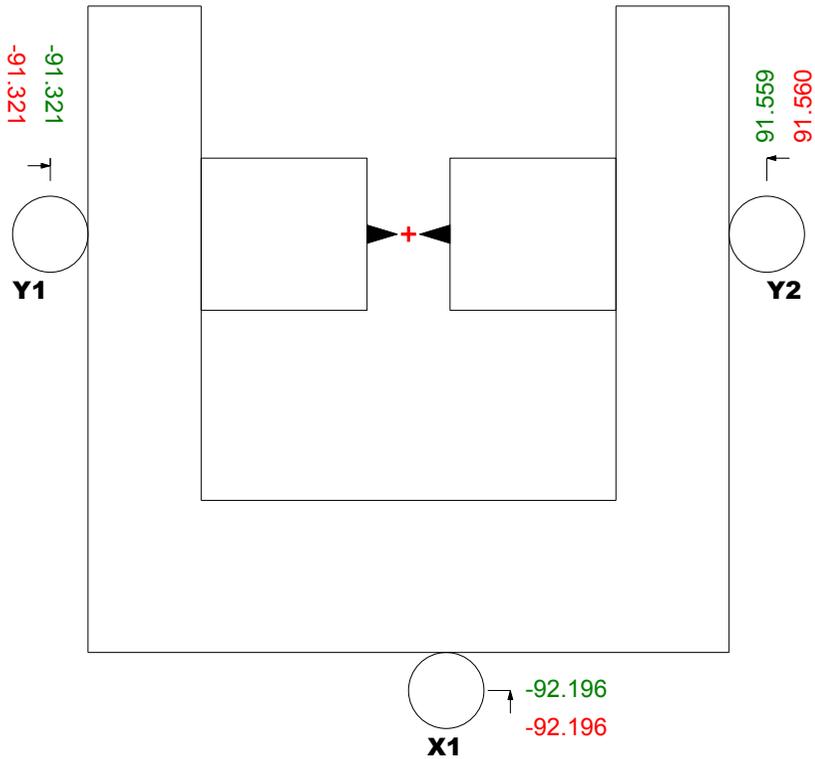
<b>Nominal Gap :</b>	<b>9.000</b>	<b>US Full :</b>	<b>9.000</b>	<b>DS Full :</b>	<b>8.9995</b>
<b>Nom. Taper :</b>	<b>0.000</b>	<b>US Wall Half :</b>	<b>4.5017</b>	<b>DS Wall Half :</b>	<b>4.5026</b>
		<b>US Aisle Half :</b>	<b>4.5032</b>	<b>DS Aisle Half :</b>	<b>4.5023</b>

<b>S/N</b>	<b>: HXU_022</b>
<b>Date</b>	<b>: 16-SEP-2019</b>
<b>Data Set</b>	<b>: 0002</b>
<b>Run</b>	<b>: FINAL</b>
<b>Cam Pos.</b>	<b>: B</b>

## PM 2

### Up Stream

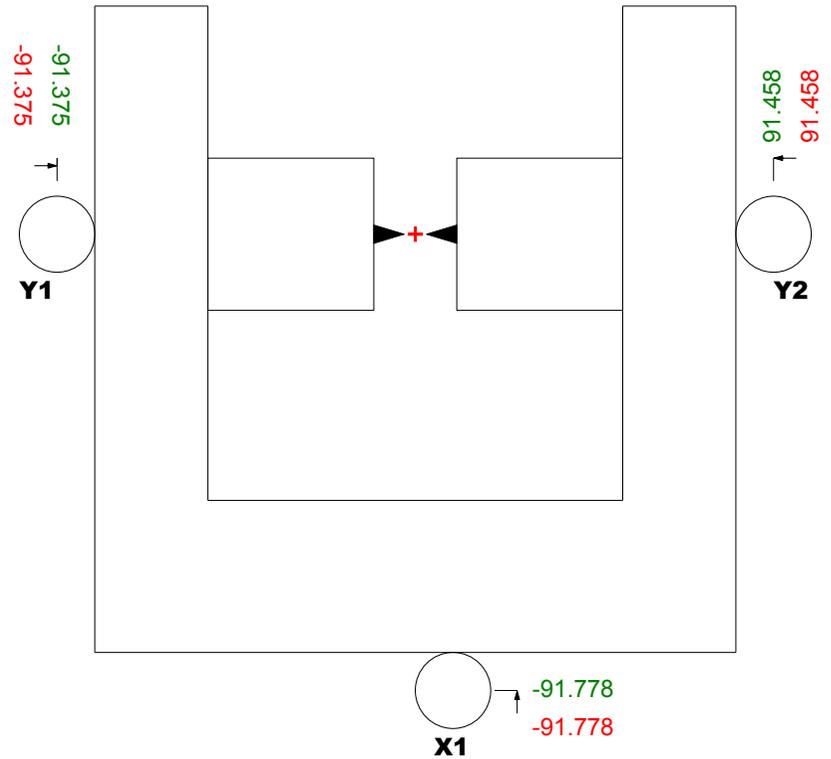
Z Center = -1841.872



## PM 3

### Down Stream

Z Center = 1842.434



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 :	8.9995
Nom. Taper :	0.000	US Wall Half :	4.5017	DS Wall Half :	4.5026
		US Aisle Half :	4.5032	DS Aisle Half :	4.5023

S/N	: HXU_022
Date	: 16-SEP-2019
Data Set	: 0002
Run	: FINAL
Cam Pos.	: B