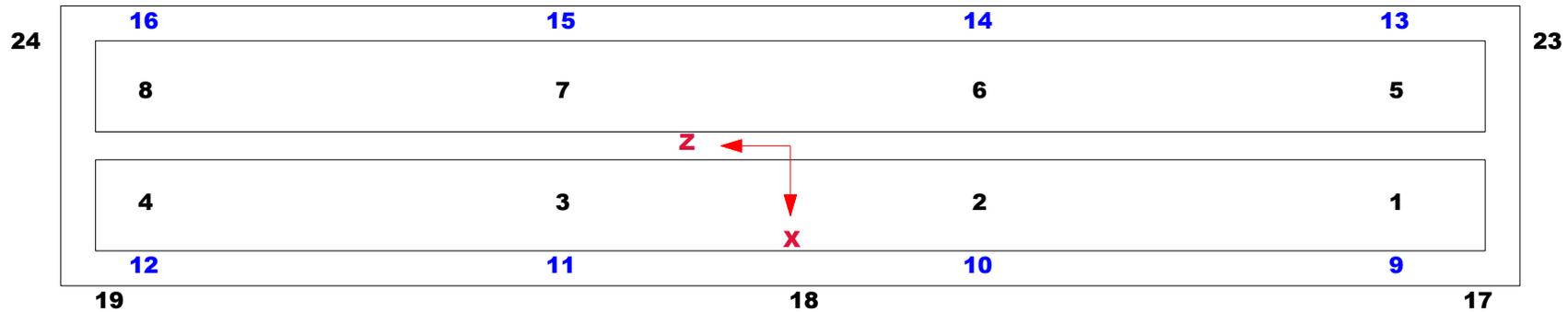


**.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 9	430.033	-0.390	-1489.408
TB 10	430.117	-0.105	-524.196
TB 11	430.142	-0.175	523.952
TB 12	430.183	-0.007	1489.324
TB 13	-430.063	-0.120	-1489.318
TB 14	-430.001	-0.261	-524.011
TB 15	-430.007	0.035	523.652
TB 16	-430.022	0.008	1489.617

**1.5in Tooling Ball Center Coordinates**

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.472	135.944	-1665.858
TB 2	98.385	136.084	-555.805
TB 3	98.473	136.108	556.015
TB 4	98.880	136.065	1666.069
TB 5	-98.370	136.066	-1665.895
TB 6	-98.308	136.124	-556.276
TB 7	-98.478	136.161	555.707
TB 8	-98.308	136.101	1665.772
TB 17	472.097	-230.399	-1580.569
TB 18	473.550	-228.845	86.411
TB 19	474.523	-229.979	1578.300
TB 23	-405.031	-229.259	-1708.137
TB 24	-401.878	-230.732	1707.450



**Grider centerline in reference to Pointed Magnets**

Dimensions in MM, Angles in Milliradians



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

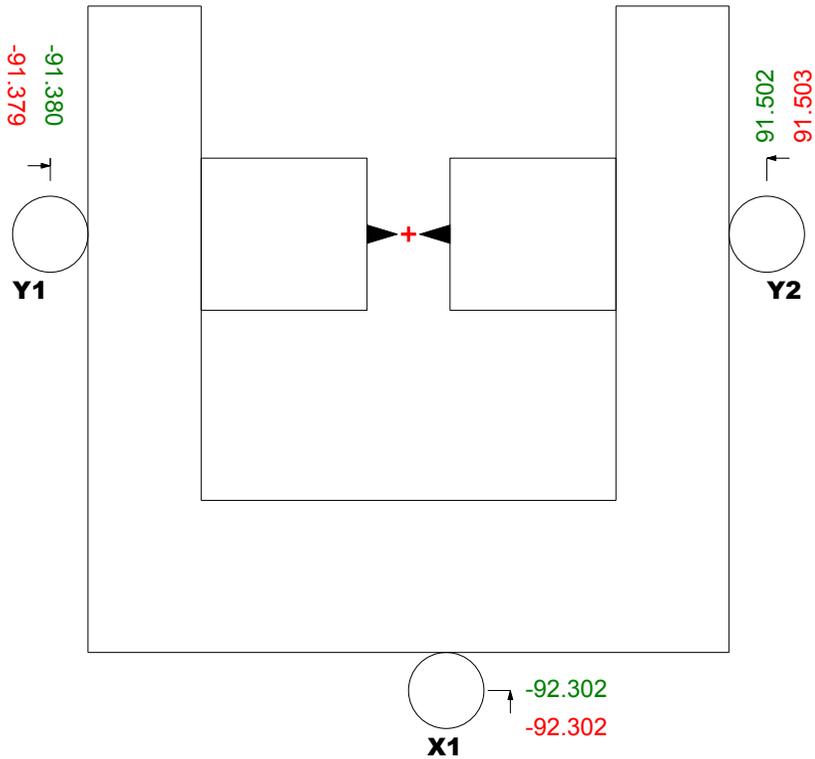
<b>Nominal Gap :</b>	<b>9.000</b>	<b>US Full :</b>	<b>9.000</b>	<b>DS Full :</b>	<b>8.9999</b>
<b>Nom. Taper :</b>	<b>0.000</b>	<b>US Wall Half :</b>	<b>4.5004</b>	<b>DS Wall Half :</b>	<b>4.5027</b>
		<b>US Aisle Half :</b>	<b>4.5037</b>	<b>DS Aisle Half :</b>	<b>4.5028</b>

<b>S/N</b>	<b>: HXU_027</b>
<b>Date</b>	<b>: 01-OCT-2019</b>
<b>Data Set</b>	<b>: 0001</b>
<b>Run</b>	<b>: FINAL</b>
<b>Cam Pos.</b>	<b>: B</b>

## PM 2

### Up Stream

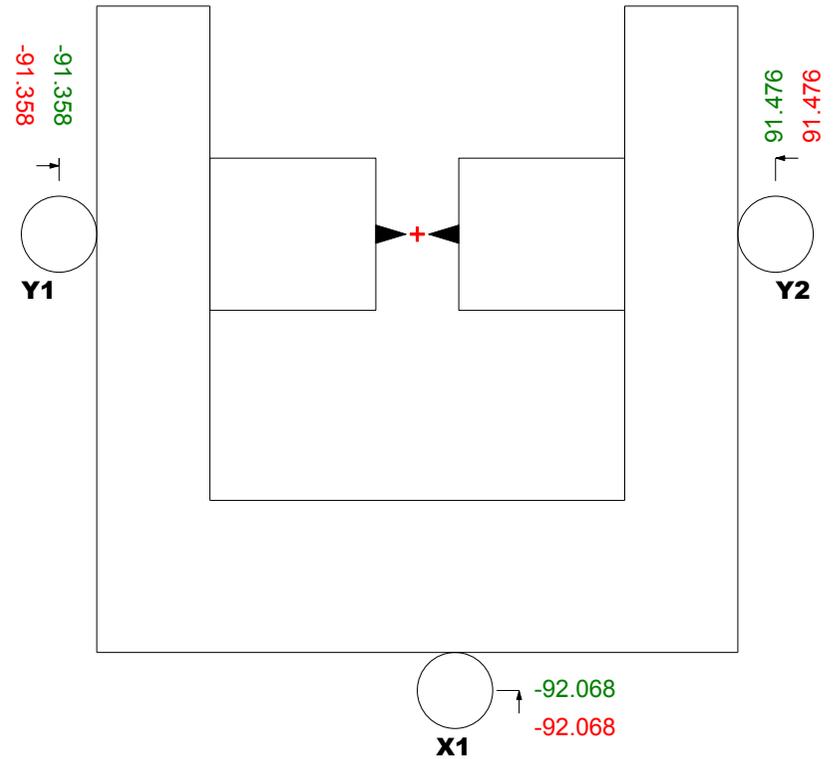
Z Center = -1841.996



## PM 3

### Down Stream

Z Center = 1842.788



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 :	4.5004	DS Wall Half :	4.5027
		US Aisle Half :	4.5037	DS Aisle Half :	4.5028

S/N	: HXU_027
Date	: 01-OCT-2019
Data Set	: 0001
Run	: FINAL
Cam Pos.	: B