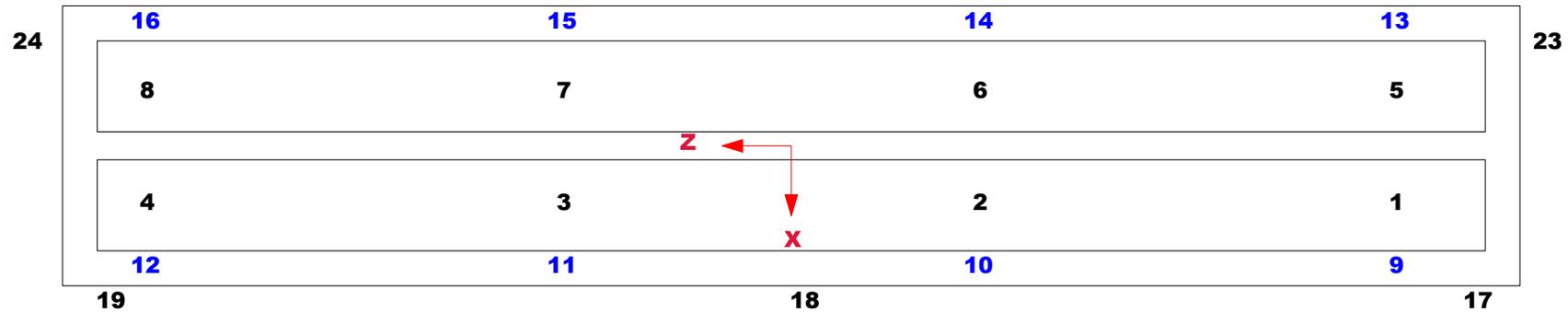


.5in Tooling Ball Center Coordinates

Name	X Corr.	Y Corr.	Z Corr.
TB 9	429.505	-0.166	-1489.389
TB 10	429.523	-0.287	-523.914
TB 11	429.573	-0.321	524.365
TB 12	429.493	-0.270	1490.007
TB 13	-430.262	-0.480	-1489.625
TB 14	-430.202	-0.660	-524.609
TB 15	-430.142	-0.544	523.646
TB 16	-430.130	-0.459	1489.844

1.5in Tooling Ball Center Coordinates

Name	X Corr.	Y Corr.	Z Corr.
TB 1	98.241	135.871	-1665.555
TB 2	98.162	135.942	-555.471
TB 3	98.213	136.003	556.471
TB 4	98.131	136.041	1666.313
TB 5	-98.519	135.815	-1666.154
TB 6	-98.608	135.865	-556.071
TB 7	-98.873	135.906	555.605
TB 8	-98.368	135.829	1665.657
TB 17	471.325	-231.626	-1577.542
TB 18	471.419	-228.052	88.685
TB 19	471.623	-232.193	1581.173
TB 23	-404.821	-233.292	-1707.102
TB 24	-404.632	-234.906	1707.799



Grider centerline in reference to Pointed Magnets

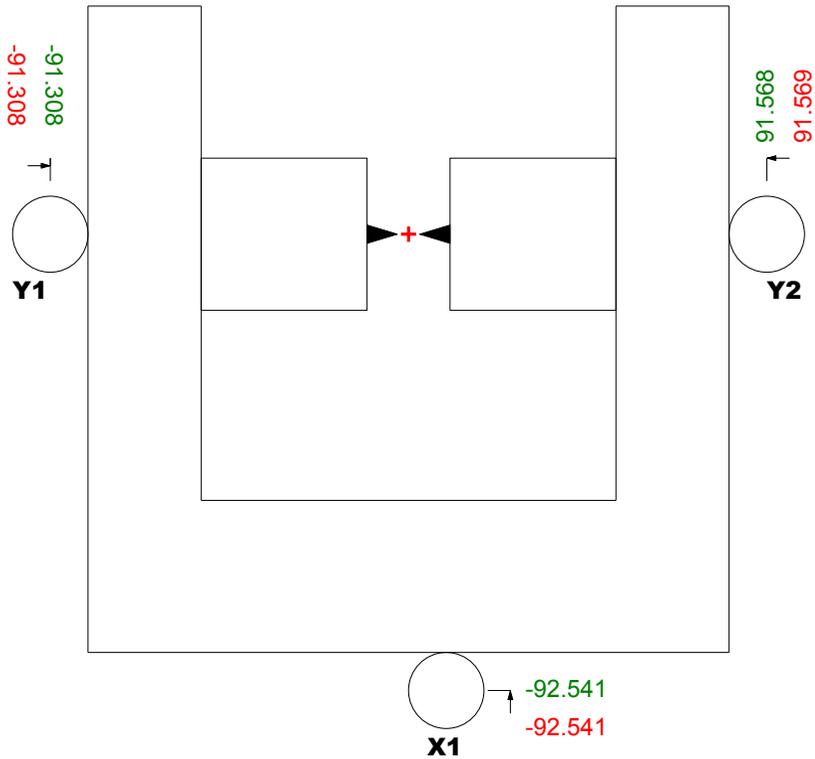
Dimensions in MM, Angles in Milliradians

	<p>HGVPU - Fiducialization at 9mm Gap, Tooling Balls</p>				<p>S/N : HXU_030</p>	
	<p>Nominal Gap : 9.000</p>	<p>US Full : 9.000</p>	<p>DS Full : 8.9994</p>	<p>US Wall Half : 4.5005</p>	<p>DS Wall Half : 4.5001</p>	<p>Date : 18-NOV-2019</p>
	<p>Nom. Taper : 0.000</p>	<p>US Aisle Half : 4.5006</p>	<p>DS Aisle Half : 4.5005</p>	<p>Run : FINAL</p>	<p>Cam Pos. : B</p>	<p>Data Set : 0001</p>

PM 2

Up Stream

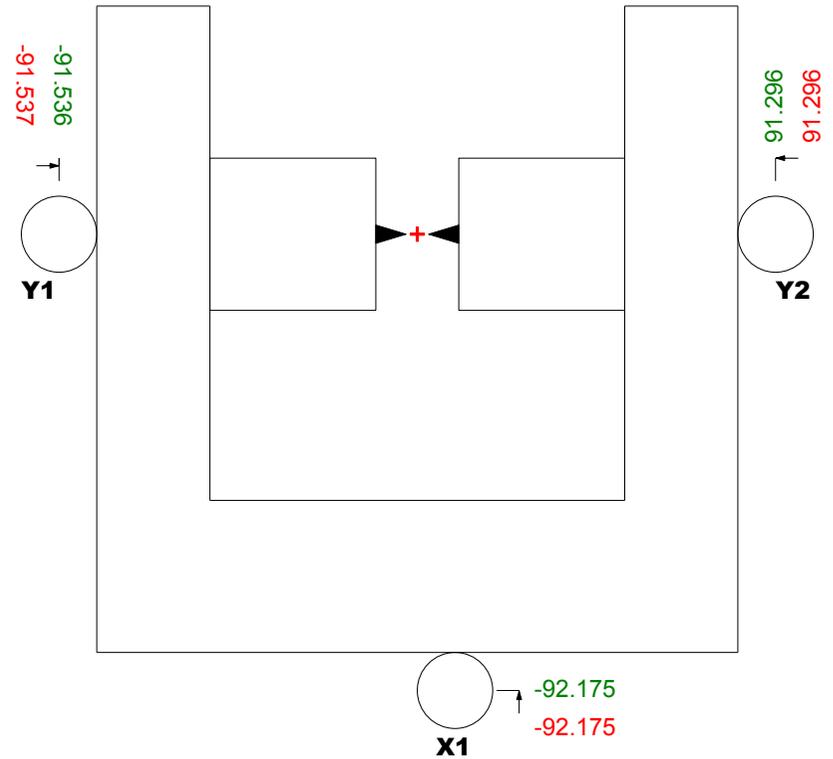
Z Center = -1842.166



PM 3

Down Stream

Z Center = 1842.688



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 :	8.9994
Nom. Taper :	0.000	US Wall Half :	4.5005	DS Wall Half :	4.5001
		US Aisle Half :	4.5006	DS Aisle Half :	4.5005

S/N	: HXU_030
Date	: 18-NOV-2019
Data Set	: 0001
Run	: FINAL
Cam Pos.	: B