

[2-4-4] **Forward Drift Chamber 1 (FDC1)**

* Design

FDC1 is placed between the target and SAMURAL magnet in order to measure the emission angle of the projectile fragments. It also has wide opening in order not to interfere with projectile-rapidity neutrons at zero degrees. It is a Walenta-type drift chamber with 5mm drift distance in order to handle relatively high beam intensity right after the target.

anode wire	20 μ m ϕ Au-W/Re
potential wire	80 μ m ϕ Au-Al
anode – potential (drift) distance	5mm
anode – cathode gap	5mm (5mm-thick G10)
cathode	8 μ m-thick Al-Kapton, x 15
gas window	8 μ m-thick Al-Kapton, x2
effective area	315mm ϕ
open area for neutrons	620mm x 340mm
anode configuration	xx'uu'vv'xx'uu'vv'xx', ($\pm 30^\circ$ for u/v)
#anode / plane x #planes	32 wires/plane x 14 planes = 448 wires
operation gas	He+60%CH ₄ at 1 atm, i-C ₄ H ₁₀ at low pressure
HV	cathode, potential
Readout	ASD x28, ASD PS x3, TDC x7 1 VME crate (with BDC1,2)

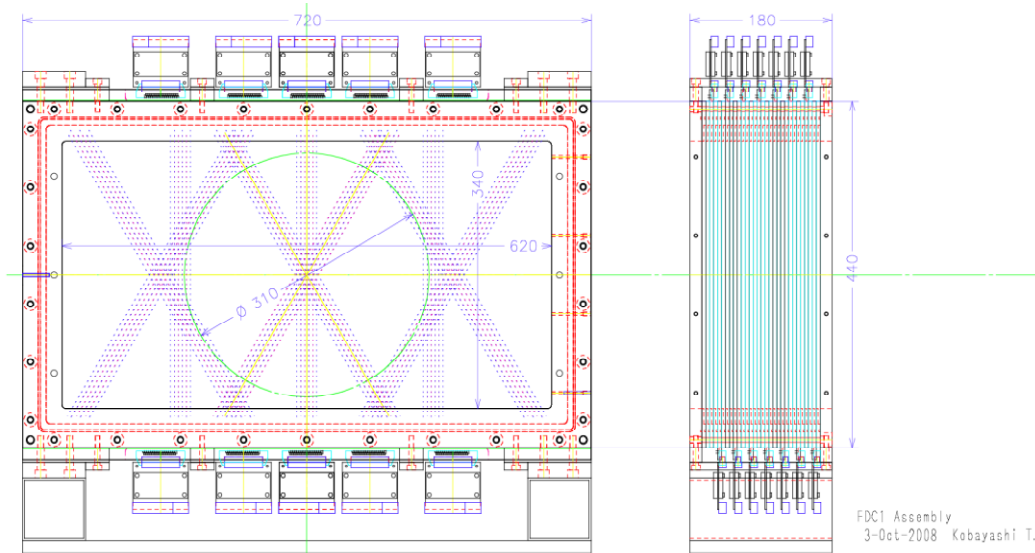


Fig. 2-4-3 : FDC1 assembly