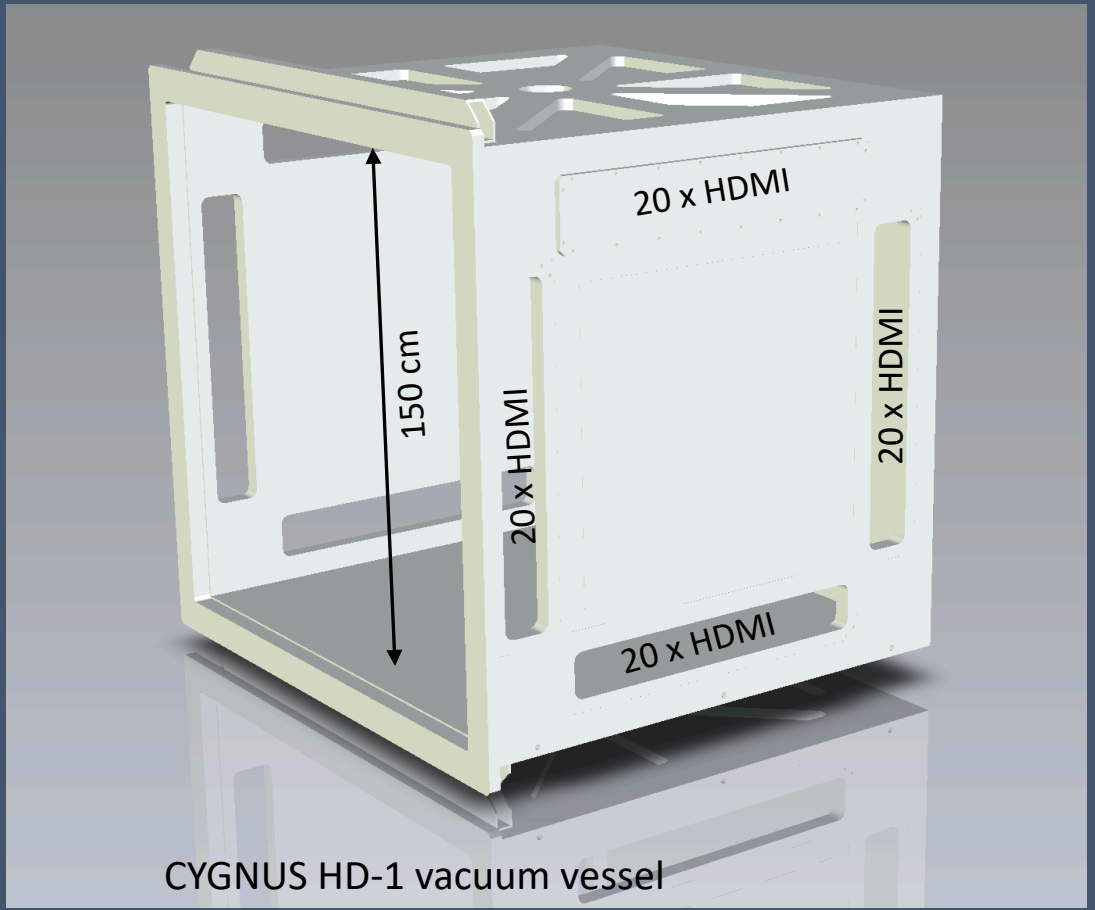
Detector 2: CYGNUS HD-1 Demonstrator

- 1000 liter sensitive volume
- 2 x 50 cm drift
- Unit-cell technology demonstrator for future, large CYGNUS neutrino/DM observatory
- 1.5 x 1.5 x 1.5 m internal volume.
- Aluminum vessel. One door.
- Parts of this *may* go underground
- CERN strip micromegas readout, 2 x 1m^2
- Custom feedthroughs with ~20 HDMI connectors, utilizing

- Vacuum vessel ordered; design ongoing at vendor
- Design shown on right did not satisfy mechanical deflection requirements, iterating

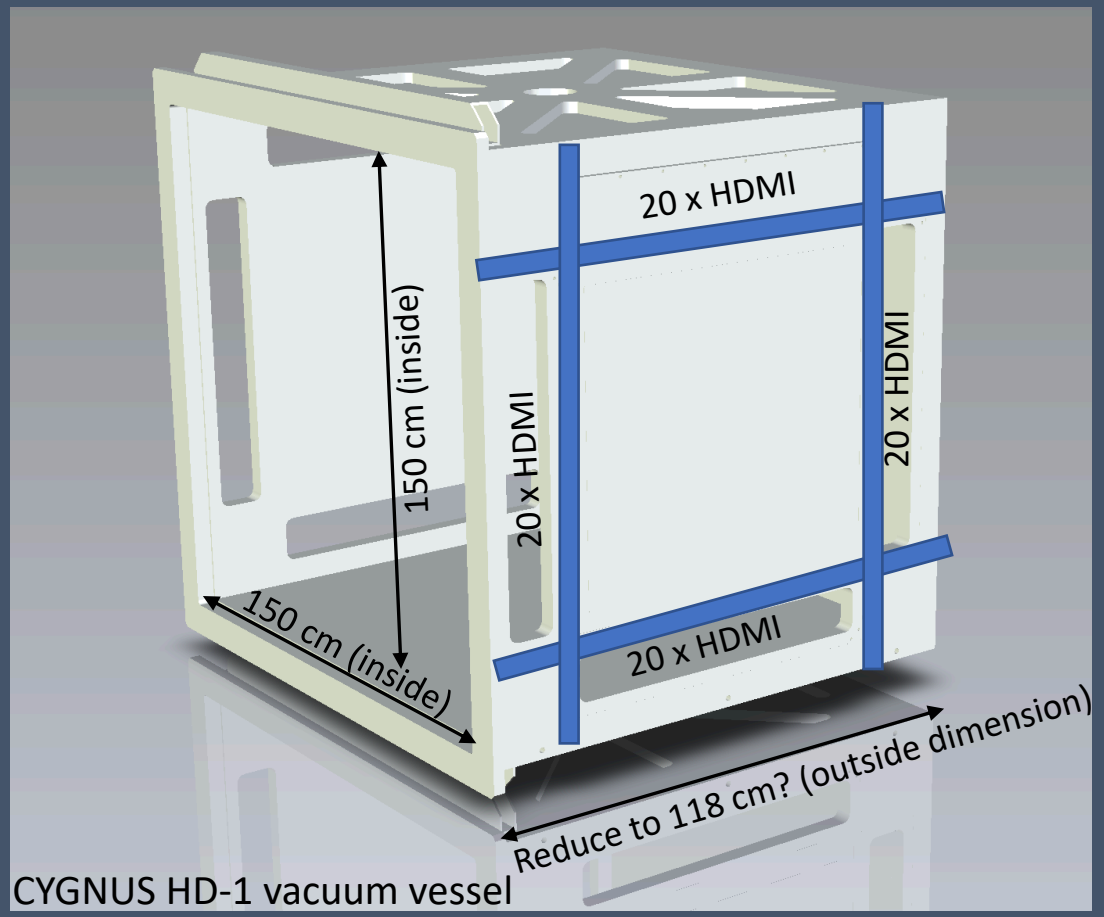


CYGNUS HD-1 vacuum vessel

Detector 2: CYGNUS HD-1 Demonstrator

Possible modifications to deal with deflections

1. Reduce one of outside dimensions to 1.18 m
2. Add stiffening bars (I-beams?) on outside of vessel
3. move some of rectangular lids to top/back
4. Reduce size of rectangular lids
5. Replace each rectangular lids with 5 x 2”-diameter through hole (for mounting of baseplate feedthrouhgs)
6. Add stiffening bars on inside of vessel



CYGNUS HD-1 vacuum vessel