

Phase II

Shaun Alsum

New Stuff

Breakout

- Test-build completed
- Measured, constructable
 - Need to cut some threaded rods shorter
- “Stand” built



Jib crane and Lid Placement

- Jib crane installed
 - Different location than originally planned
 - Middle of the room, alters where we put the lid
- Lid location decided upon and marked
 - Clears the Jib crane by ~1 inch and extends ~2-3 inches outside cleanroom on the side.
 - Curtain moves so should be fine



PMT base connector progress

- Prototype connectors made
 - Pins fit well
 - Quite robust
 - Plugged and unplugged ~15 times
 - Tried wiggling the individual connectors
- Steffen currently milling final connectors



Grid HV cables

- Need to determine locations to connect cables in each scenario
 - Requires cables of the same length each time
- Got solid works model from Brian and got a primer for how to use solid works from Alden

Old stuff

Minor things progress

- Thinking about attaching HV to grids/plates/field hoops
- Steffen volunteered to make the PMT connectors
- LED/Camera decisions
- Located some wire, estimated how much needed, etc.

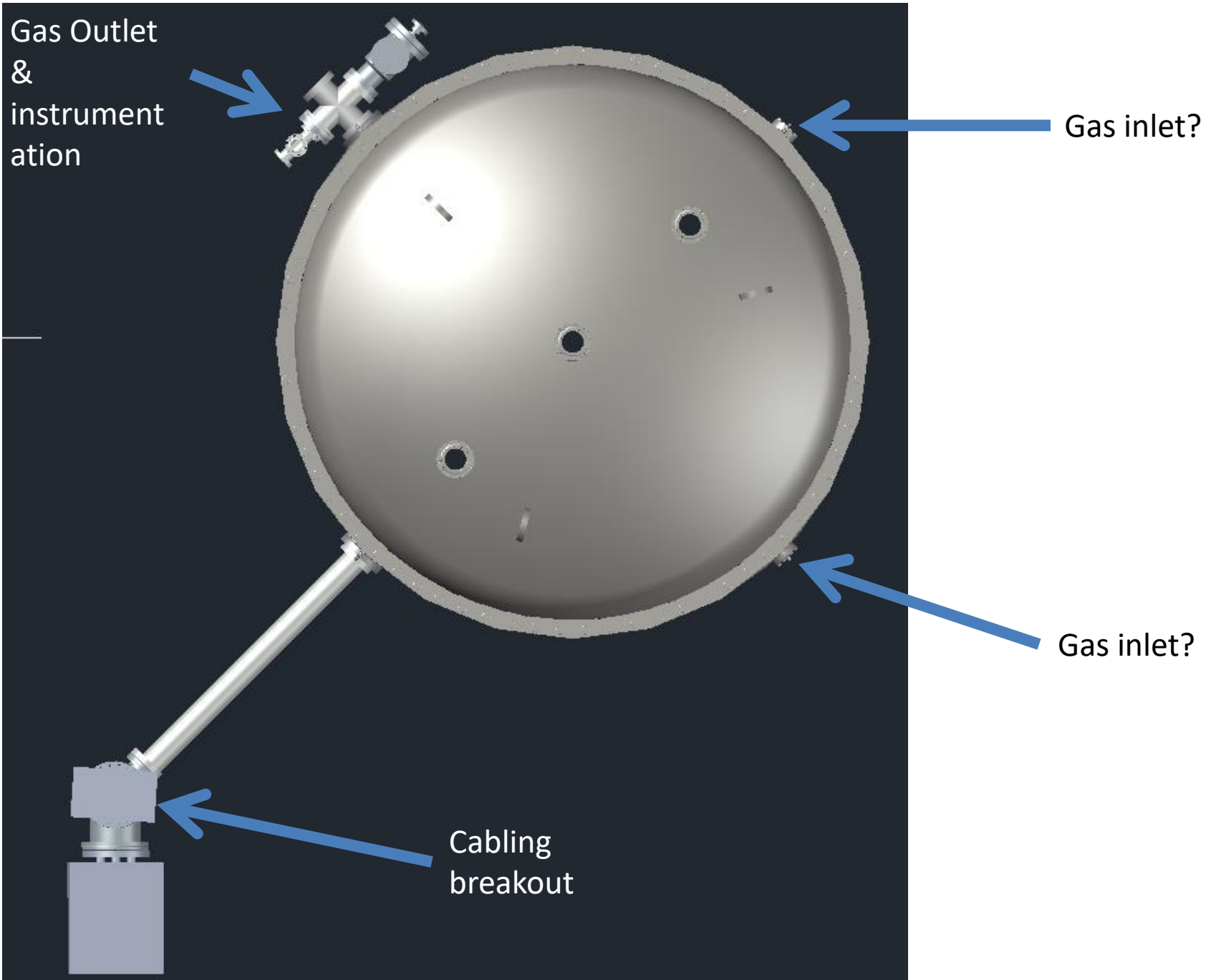
Vessel in place!

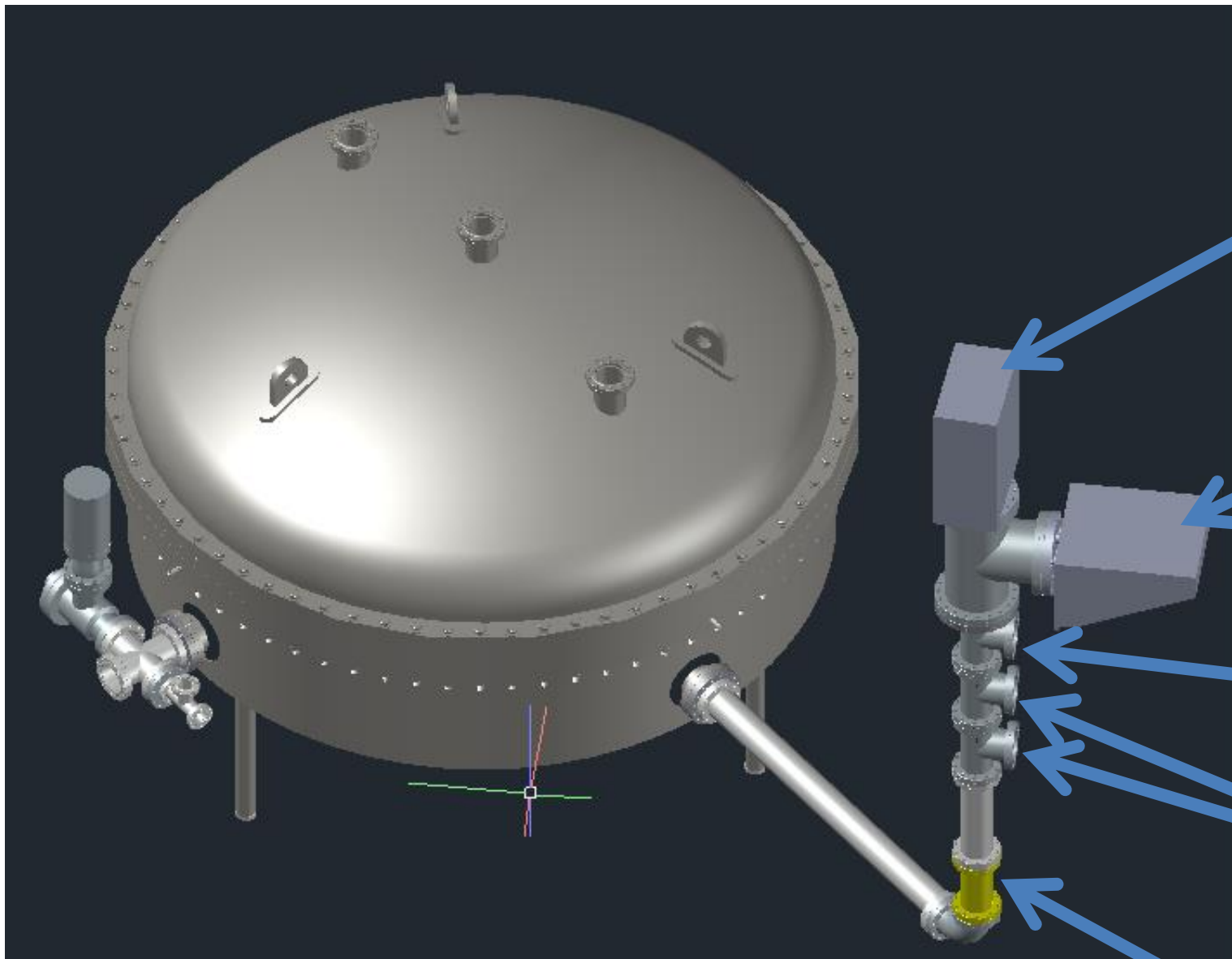


Breakout parts

- All parts needed for breakout ordered, located, or in-hand
- Need PMT HV FT from PSL still

| | A | B | C |
|----|-----------------------------|---------|----------------|
| 1 | Part | #Needed | #In Possession |
| 2 | 6"->4-5/8" ZLR | 2 | 0 |
| 3 | 3' long 4-5/8" CF conduit | 1 | 1 |
| 4 | 4-5/8" CF elbow | 1 | 2 |
| 5 | 18" long 4-5/8" CF bellows | 1 | 1 |
| 6 | 12" long 4-5/8" CF tube | 1 | 1 |
| 7 | 4-5/8" CF T | 4 | 4 |
| 8 | 4-5/8"->8" ZLR | 2 | 2 |
| 9 | 8" CF 5-way | 1 | 0 |
| 10 | 8" CF 4xD25 FT | 1 | 0 |
| 11 | PMT HV Box | 1 | 1 |
| 12 | 8" PMT Sig FT flange | 1 | 0 |
| 13 | PMT Sig Filter Box | 1 | 1 |
| 14 | 4-5/8" CF 2xD25 FT | 1 | 1 |
| 15 | 4-5/8" Marty's HV FT flange | 2 | 0 |
| 16 | 4-5/8" CF valve | 1 | 1 |
| 17 | 4-1/2" turbo pump | 1 | 0 |
| 18 | 4-5/8" -> 2-3/4" CF ZLR | 1 | 2 |
| 19 | 2-3/4" Hornet | 1 | 0 |
| 20 | 2-3/4" Worker Bee | 1 | 0 |
| 21 | 2-3/4" -> VCR FT | 2 | 2 |
| 22 | 3-3/8" -> 2-3/4" ZLR | 1 | 1 |
| 23 | 2-3/4" 5-way cf | 1 | 1 |
| 24 | 2-3/4" blank | 1 | 1 |





PMT Sig
filter box

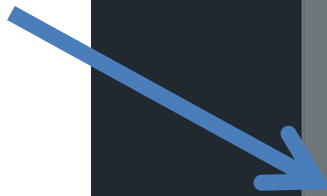
PMT HV FT
box

LED,
Camera, LA

Grid/hoop/
refl plate
HV

Bellows

Turbo



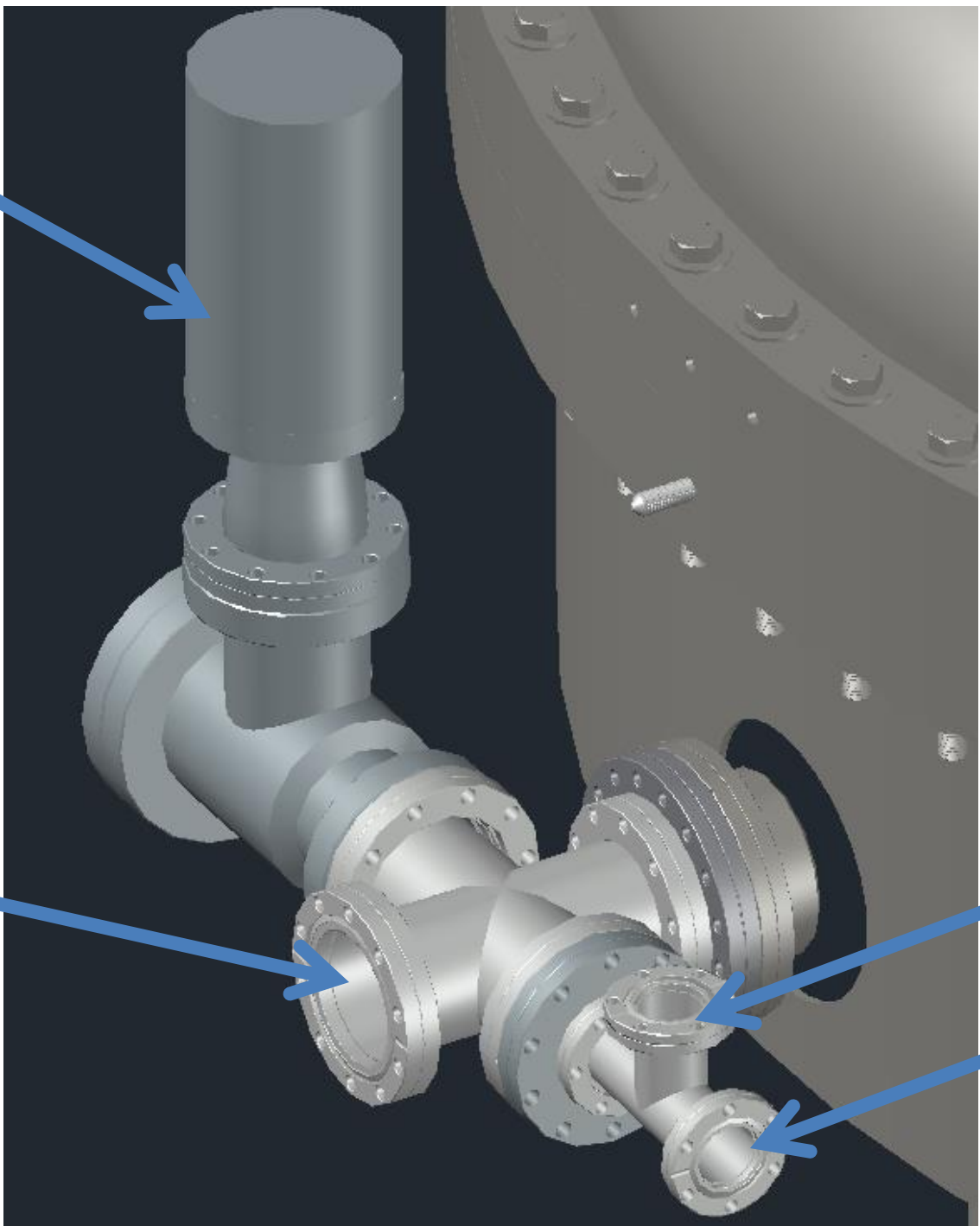
To VCR outlet on which >1bar pressure gauges



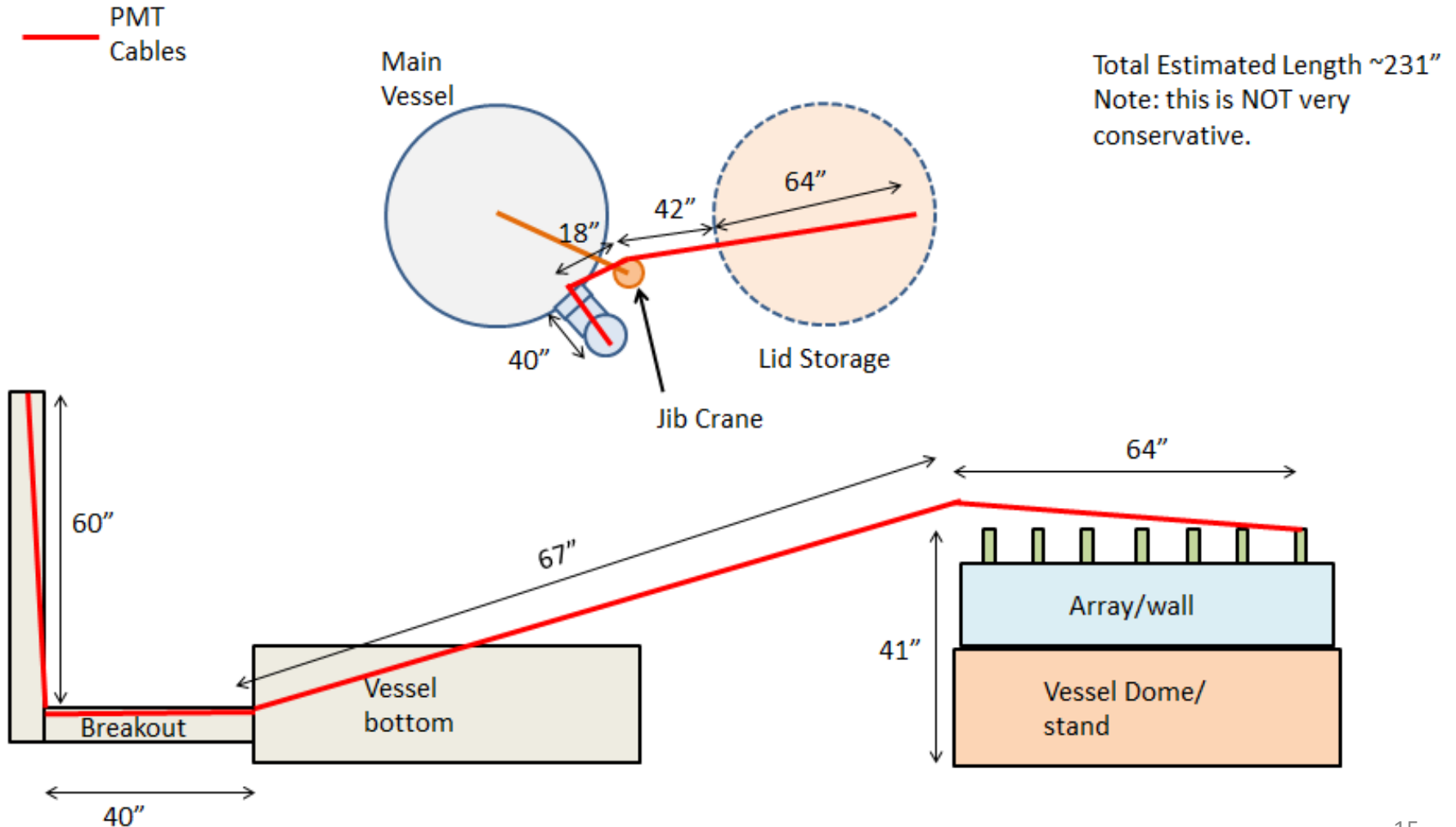
Hornet



Worker bee

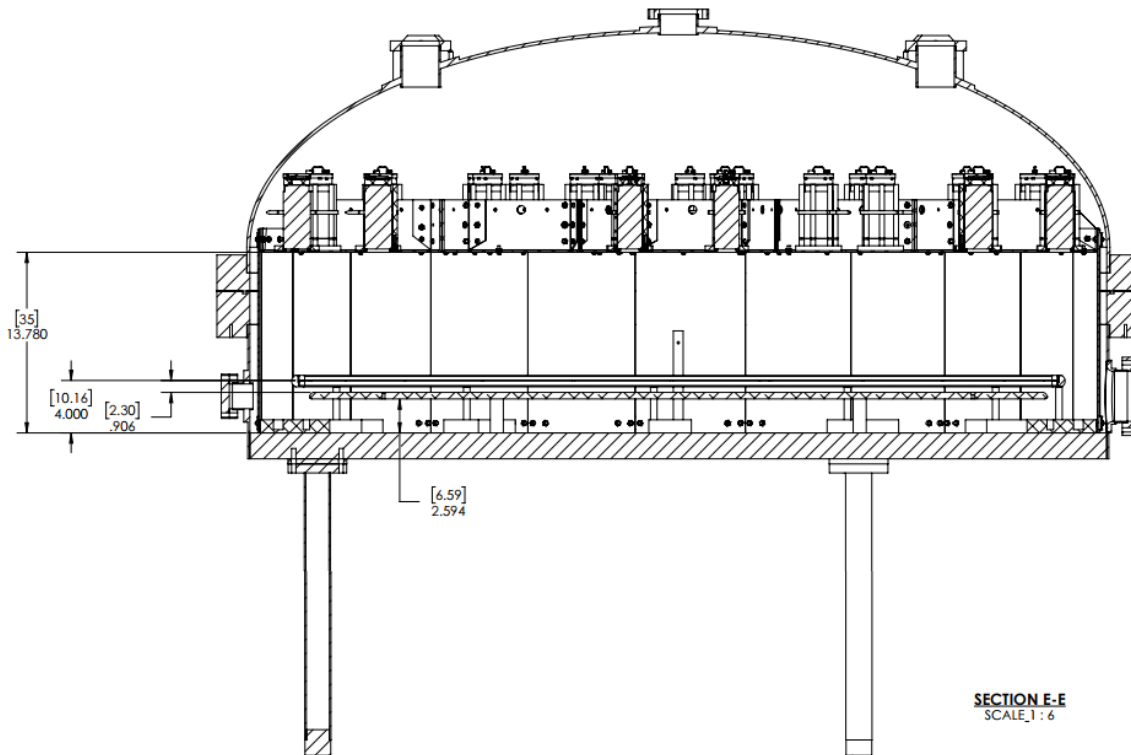


PMT cable length estimates



System Test Phase II - LZ

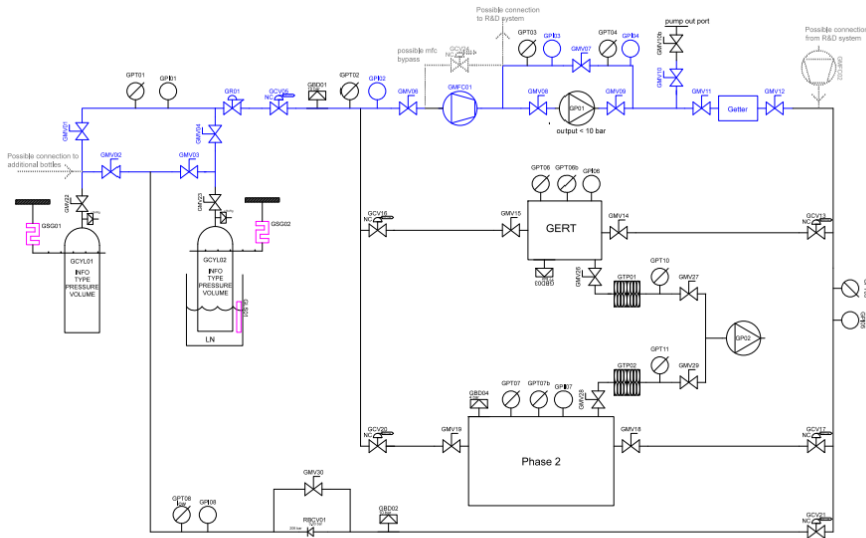
- Large Vessel designed to test the LZ field generating grids in Xe gas.



CONFIGURATION:

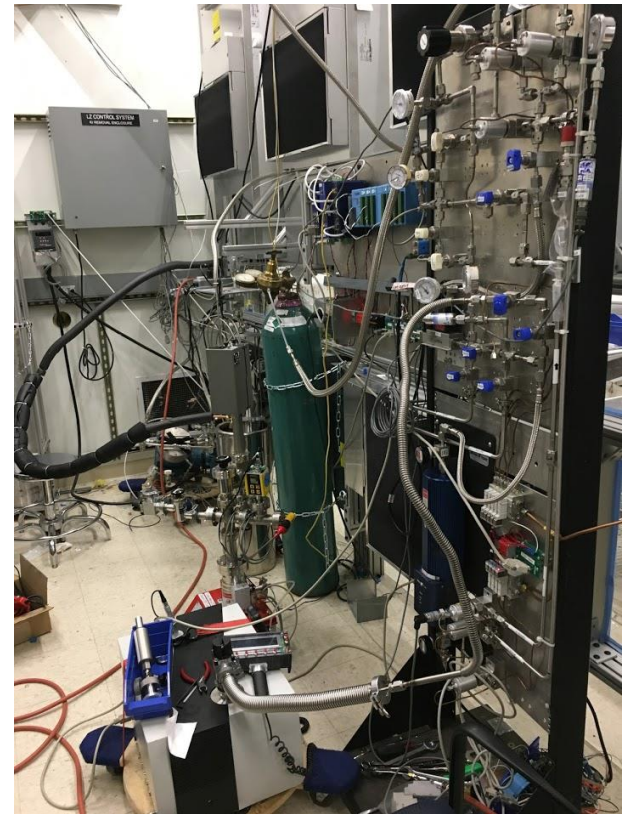
Gas Circulation

Assist in concept, design, and construction of Phase II/Gas Test gas system

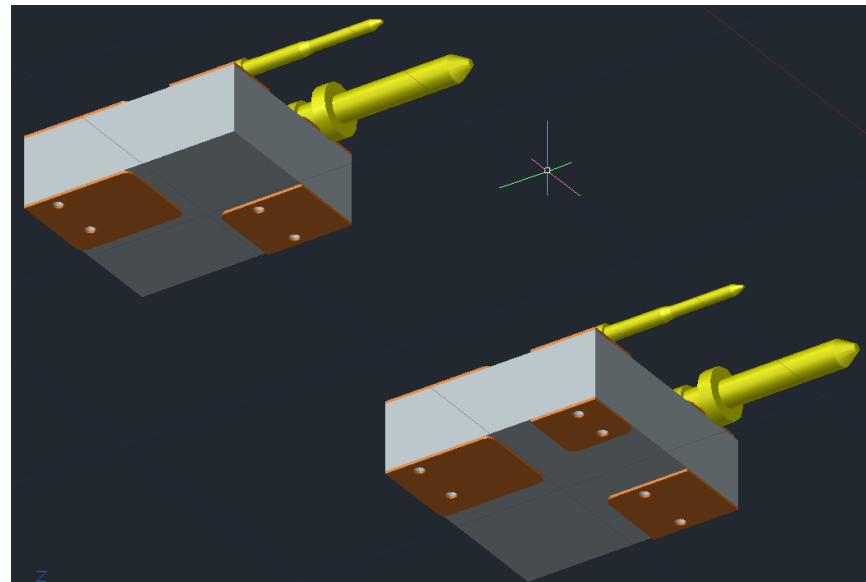
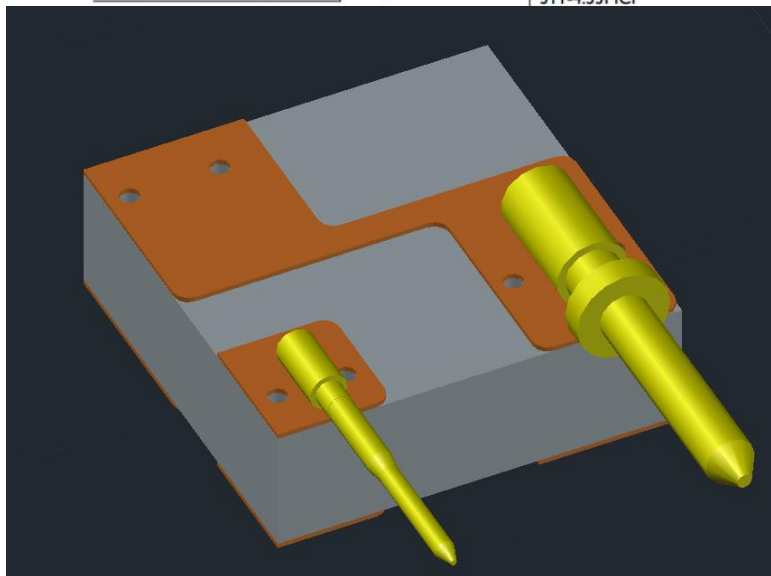
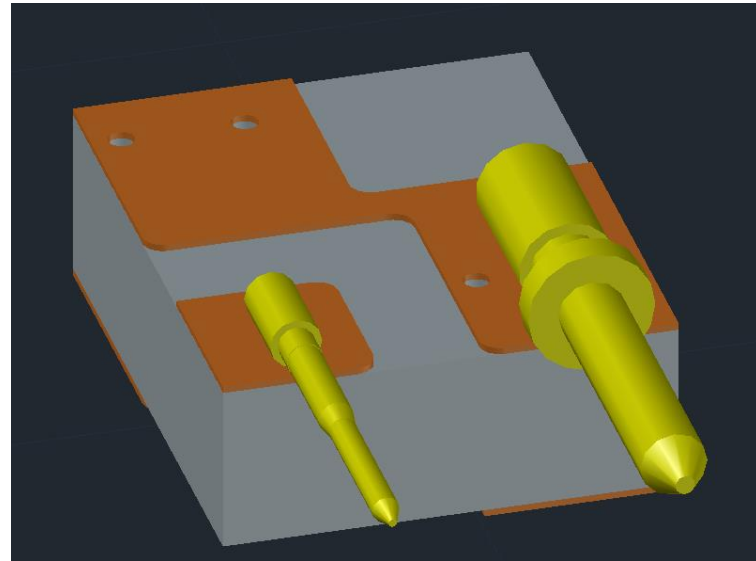
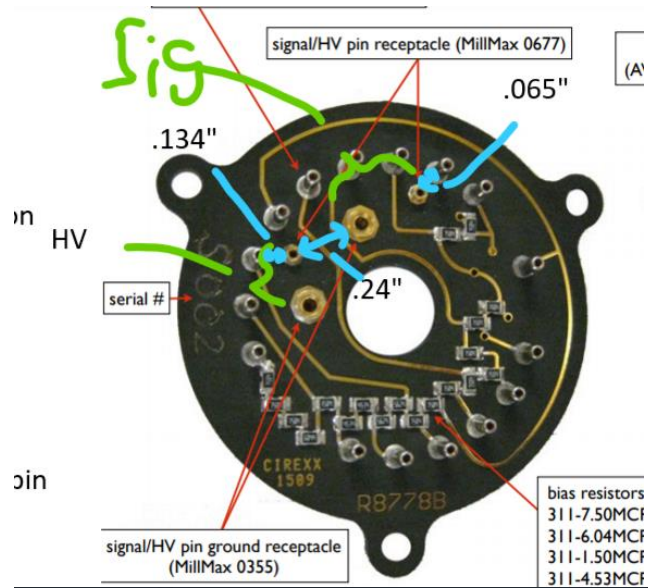


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Title: LZ R&D Phase 2 and GERT P&ID
 Version 1.0: April 25, 2017
 SLAC National Accelerator Laboratory
 (Reviewed by: Christine Brown, igbrown@slac.stanford.edu)



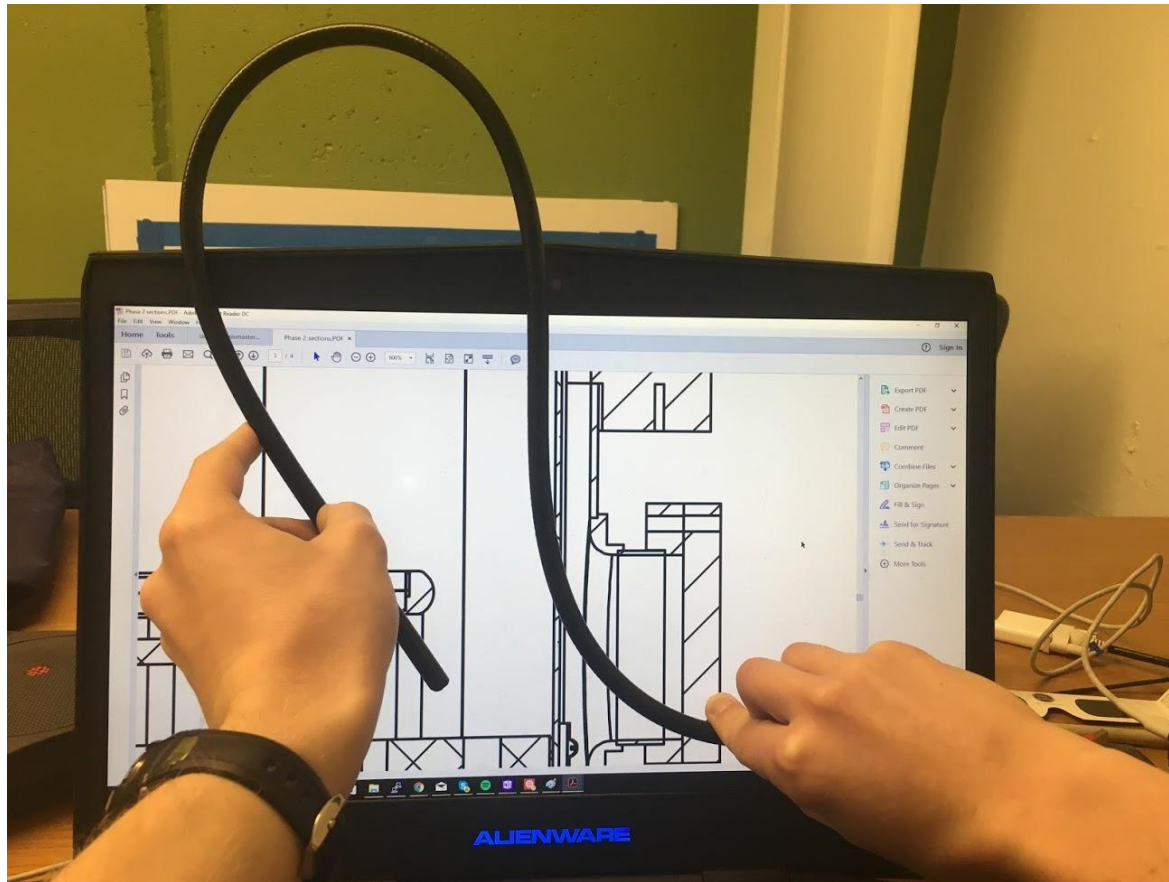
PMT connections



PMT array test assembly

- 43 bent sheet metal pieces
- Ensure they fit correctly and withstand manipulation and stress
- Thorough cleaning





Designing HV cable routes and terminations to grids, rings, hoops, etc.