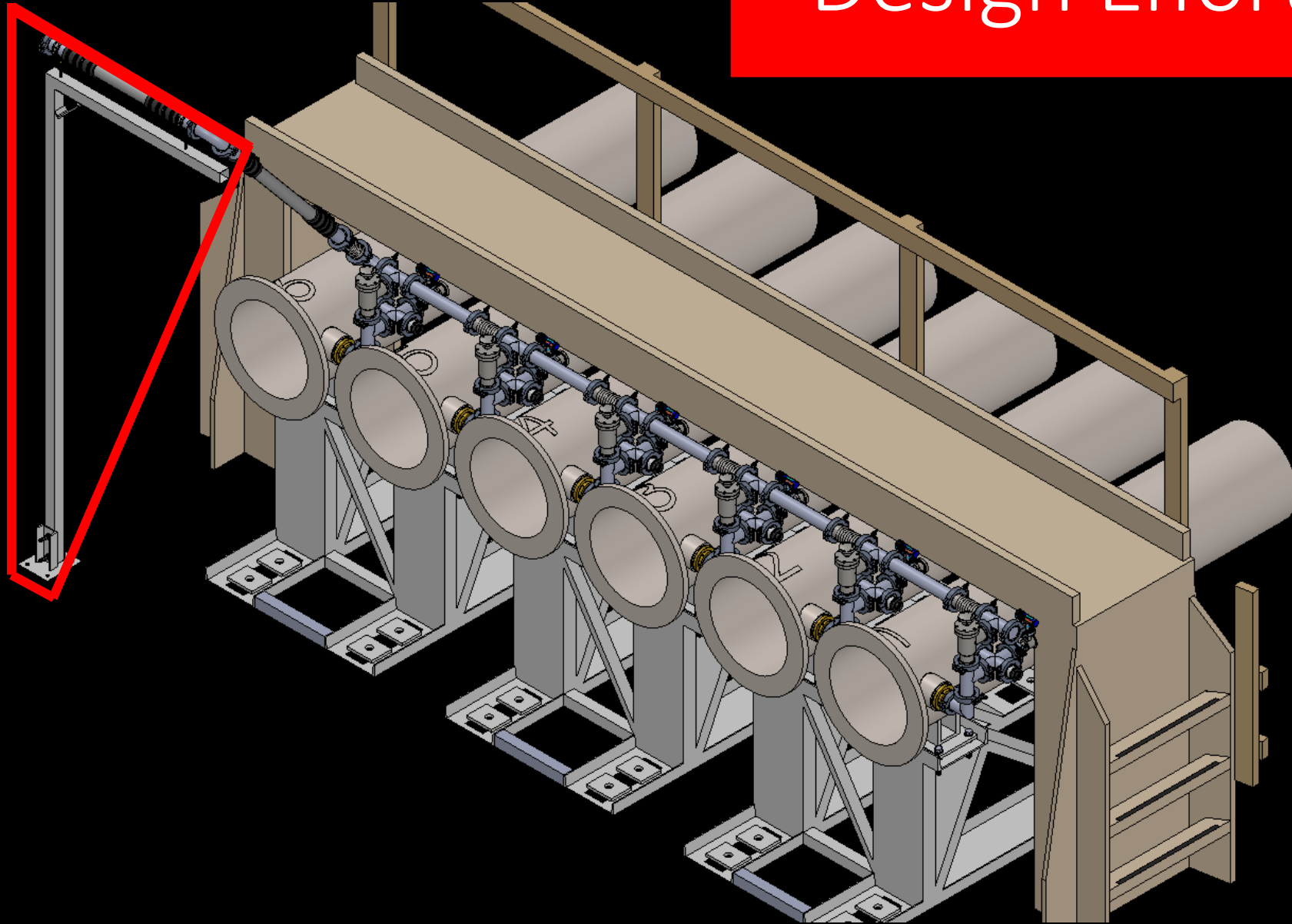


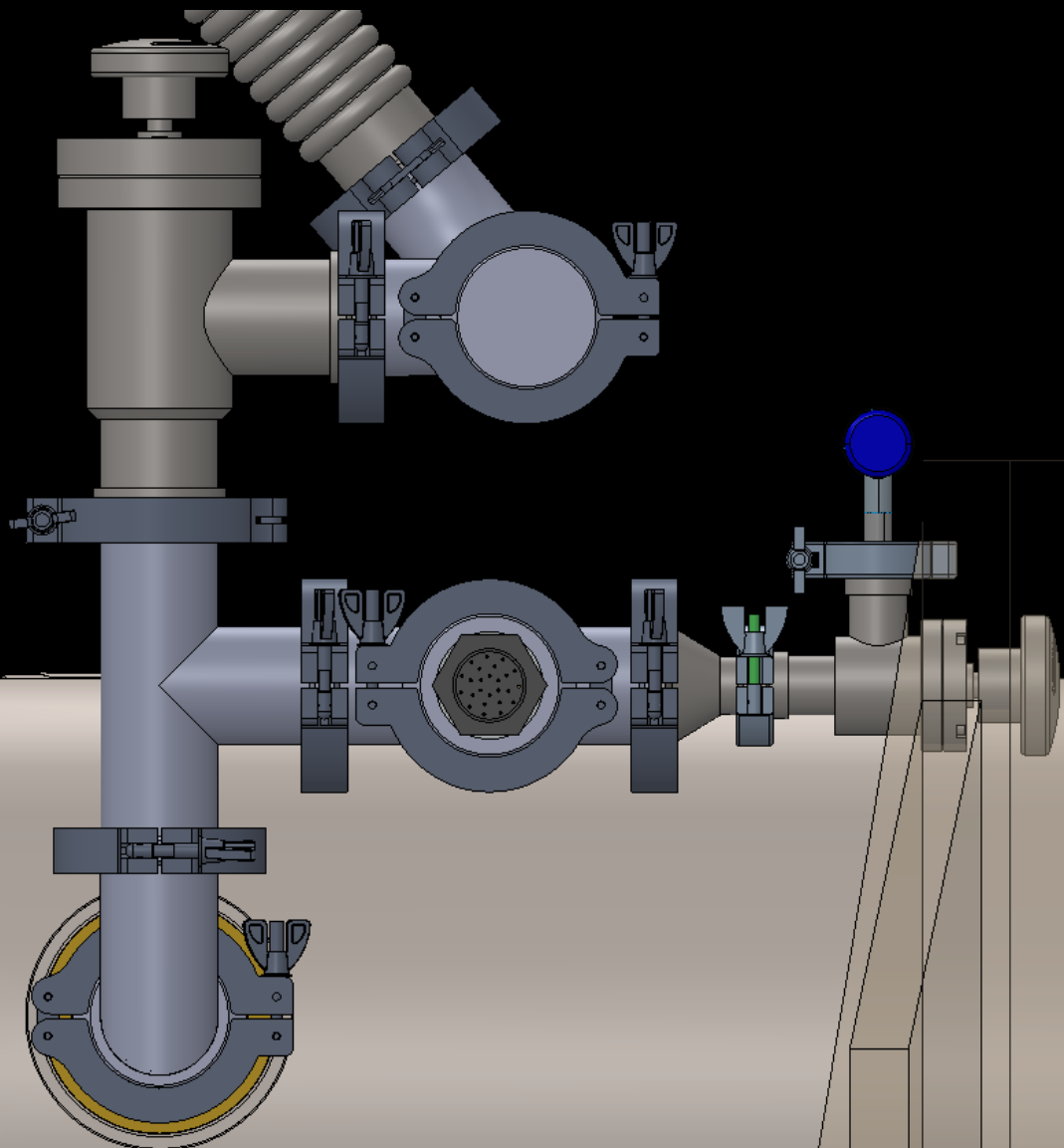
# NPOI Vacuum Manifold

Wyatt Clark | Cydny Clark | Alex McClinton

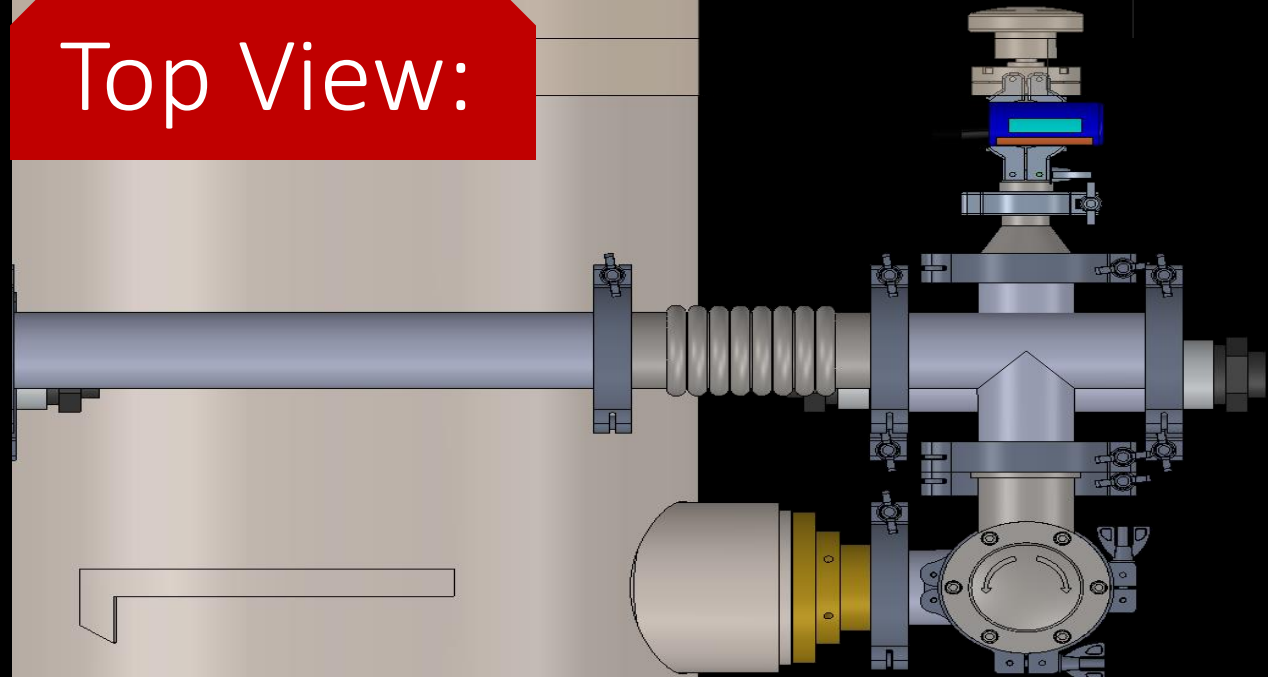
# Design Efforts



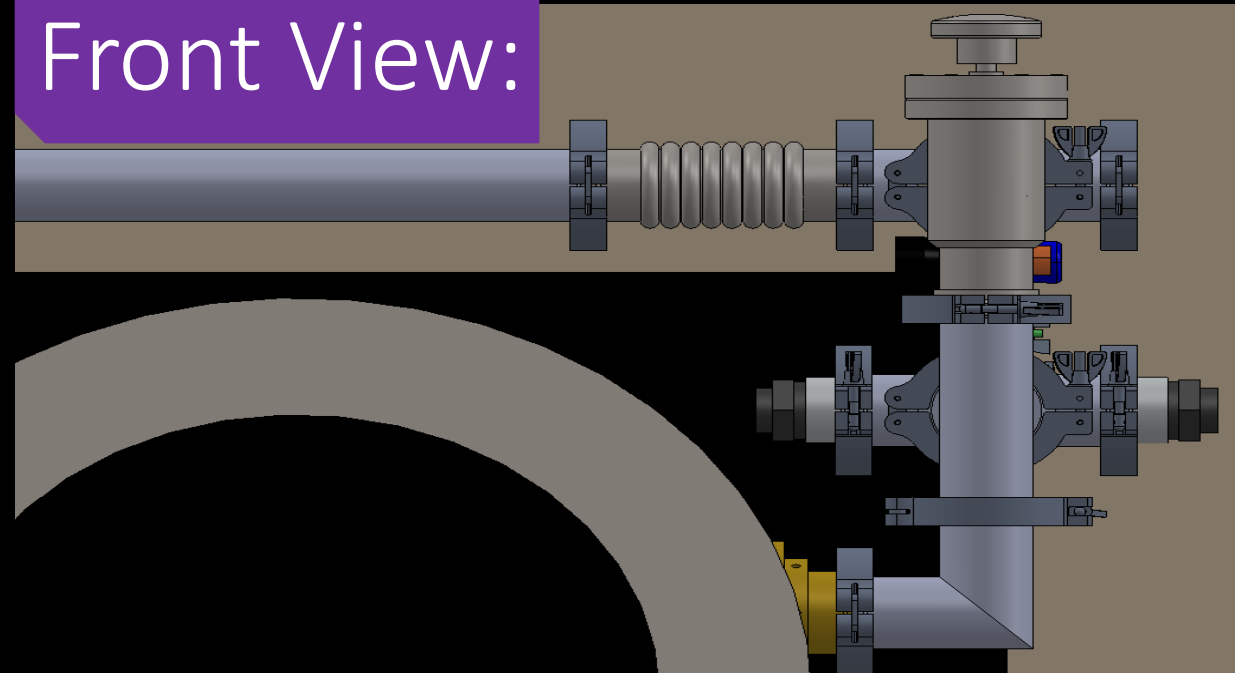
Side View:



Top View:



Front View:



# Purchasing Plan


- No items bought since last presentation
- Everything has been used

Description	Make or Buy	Primary Vendor	Part No.	Lead Time	Quantity Ordered	Unit Cost (\$)	Total Cost (\$)	Part Status	Amount Received
QF 50 Mitred 90° Elbow, Stainless Steel, 2"OD	Buy	Kurt J. Lesker	QF50-200E90M	In Stock	6	86	516	Received	6
QF 50 Tee, Stainless Steel, 2" OD	Buy	Kurt J. Lesker	QF50-200-T	In Stock	12	146	1752	Received	12
QF 50 Cross, Stainless Steel, 2"OD	Buy	Kurt J. Lesker	QF50-200-X	KJLC will contact	6	220	1320	Received	6
QF50 TO QF25 Reducing Nipppe, Stainless Steel	Buy	Kurt J. Lesker	QF50XQF25C	In Stock	6	81	486	Received	6
QF 25 Clamp, Aluminium	Buy	Kurt J. Lesker	QF25-100-C	In Stock	6	9	54	Received	6
QF 25 Centerning Ring, Stainless Steel	Buy	Kurt J. Lesker	QF25-100-SRV	In Stock	6	9	54	Received	6
QF 25 Valve, Stainless Steel, FKM SEALED	Buy	Kurt J. Lesker	SA0100MVQF	In Stock	6	335	2010	Received	6
KF 25 Pressure GAUGE	Buy	Kurt J. Lesker	KJL275196	In Stock	6	175	1050	Received	6
QF 50 Blanking Plate, Stainless Steel	Buy	Kurt J. Lesker	QF50-200-SB	In Stock	19	20	380	Received	19
4in DiaBrass Stcok (12in Segaments)	Buy	MidWest Steel Supply	N/A	In Stock	3	284.22	852.66	Received	3
QF 50 Centering Ring, Aluminium	Buy	Kurt J. Lesker	QF50-200-ARV	In Stock	61	12	732	Received	61
QF 50 Clamp Aluminium	Buy	Kurt J. Lesker	QF50-200-C	In Stock	61	17	1037	Received	61
QF 50 12.6" Pipe, Stainless Steel, 2" OD	Buy	Kurt J. Lesker	QF50-200-NL	In Stock	6	89	534	Received	6
6" Bellows, Stianless Steel, 2" ID, .012" Wasll	Buy	Kurt J. Lesker	MH-QF-D06	In Stock	6	123	738	Received	6
QF 50 Non Mitred 90° Elbow, Stainless Steel, 2"OD	Buy	Kurt J. Lesker	QF50-200-E90	In Stock	1	95	95	Received	1
Smooth-Bore Seamless 304 Stainless Steel Tubing	Buy	McMaster-Carr	89895K794	In Stock	1	230.6	230.6	Received	1
Flexible Coolant Hose	Buy	McMaster-Carr	5727K53	In Stock	3	20.66	61.98	Received	3
Worm-Drive Clamps for Firm Hose and Tube	Buy	McMaster-Carr	5416K58	In Stock	2	14.47	28.94	Received	2
Threaded-Rod-Mount Clamping Hanger	Buy	McMaster-Carr	2615T19	In Stock	6	3.15	18.9	Received	6
Quick-Clamp High-Vacuum Fitting	Buy	McMaster-Carr	4518K14	In Stock	1	109.57	109.57	Received	1
Metal End Support	Buy	NPOI	N/A	N/A	1	0	0	Received	1
Carbide Tiped Lathe Tool	Buy	McMaster-Carr	3367A889	In Stock	2	15.52	31.04	Received	2
Threads Per Inch And Center Identifier	Buy	McMaster-Carr	2072A11	In Stock	1	30.16	30.16	Received	1



# Manufacturing Plan


Description	Make or Buy	Primary Vendor	Part No.	Lead Time	Quantity Ordered	Unit Cost (\$)	Total Cost (\$)	Part Status	Amount Received
3in DiaBrass Stock (3.75in segments)	N/A	N/A		N/A	6	Donated	\$0.00	Received	6
TankToKF50 Interface	Make	N/A		8hrs Per Part	6	\$0.00	\$0.00	Finished	6
Interface Adaptor Ring	Make	N/A		40min Per Part	6	\$53.33	\$320.00	Finished	6
PAVE Electrical Feedthroughs	BUY	PAVE		N/A	12	Donated	\$0.00	Received	12
PAVE Standoff	Make	N/A		40min Per Part	12	\$0.00	\$0.00	Finished	12
Electrical Feedthrough Blanking Plate	Make	N/A		30min Per Part	12	\$0.00	\$0.00	Finished	12
Cut 12.6in Pipe	Make	N/A		20min Per Part	2	\$0.00	\$0.00	Finished	2



# Manufacturing



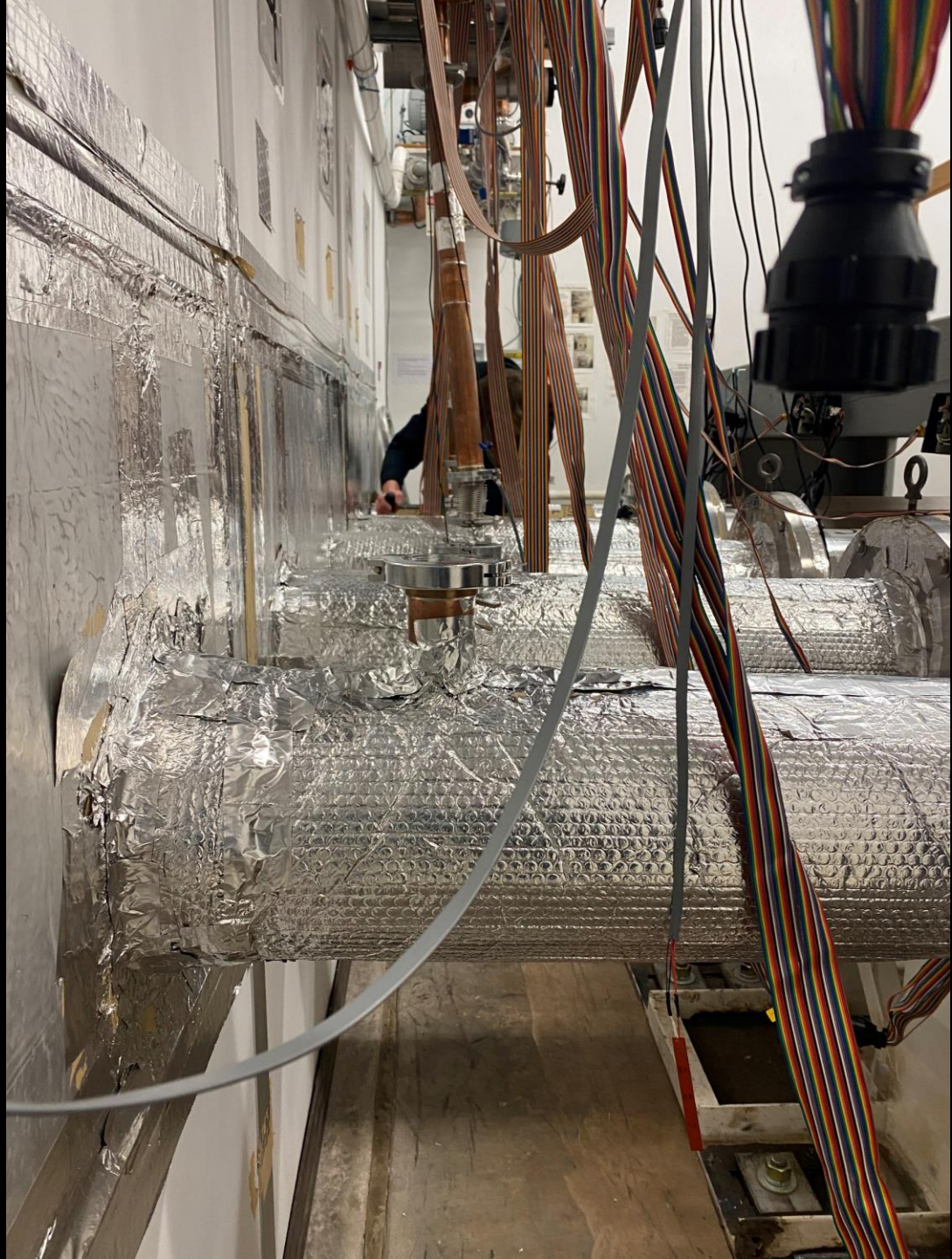
100% Build





Disassembly



















Assembly















FDL  
5

FDL  
4

FDL  
3

FDL  
2

FDL  
1

TELE  
6

TELE  
5

TELE  
4

TELE  
3

TELE  
2

**DANGER**  
DO NOT  
OPERATE

**DANGER**  
DO NOT  
OPERATE

**DANGER**  
DO NOT  
OPERATE

**DANGER**  
DO NOT  
OPERATE

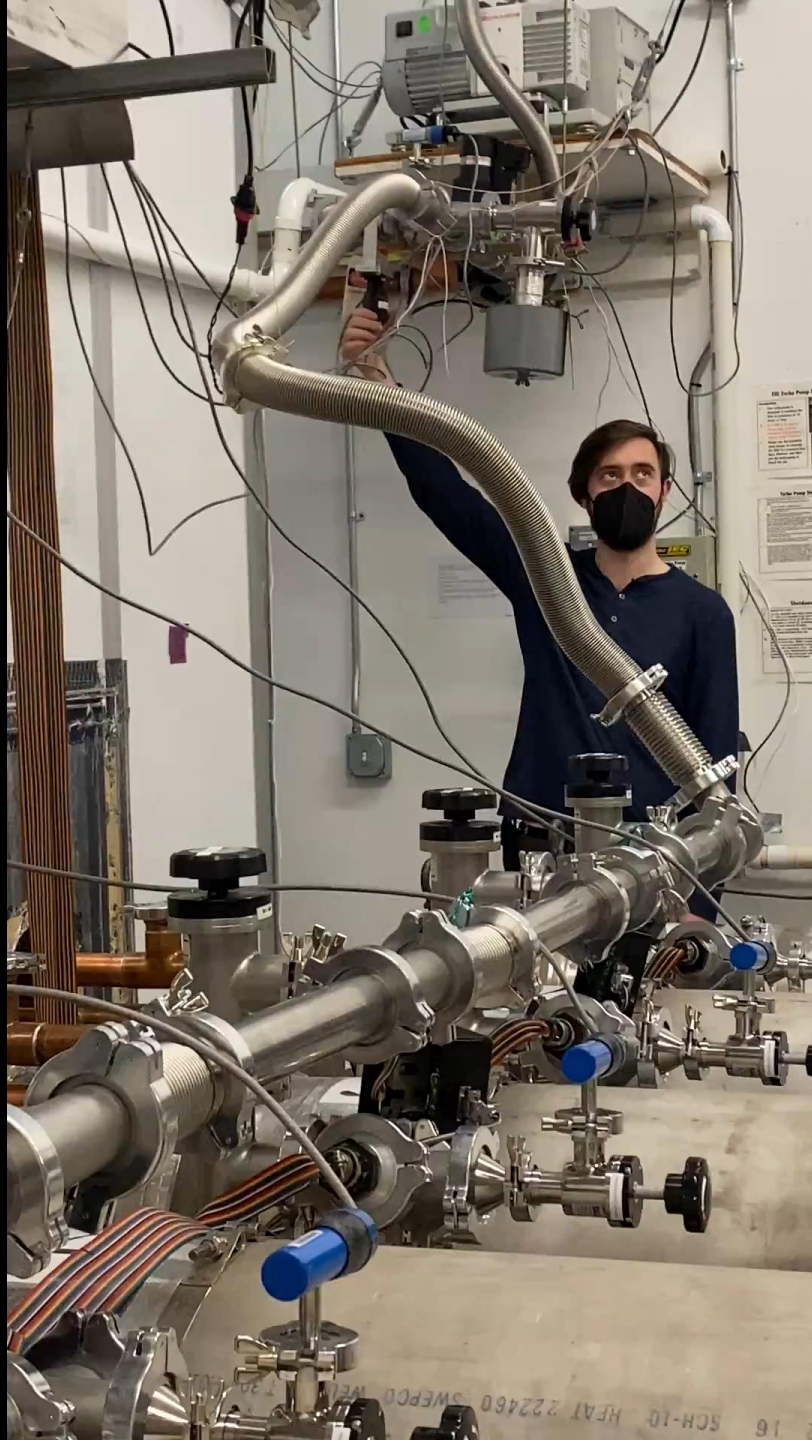
806  
372  
9991.9

9991.9  
804  
575

1.00

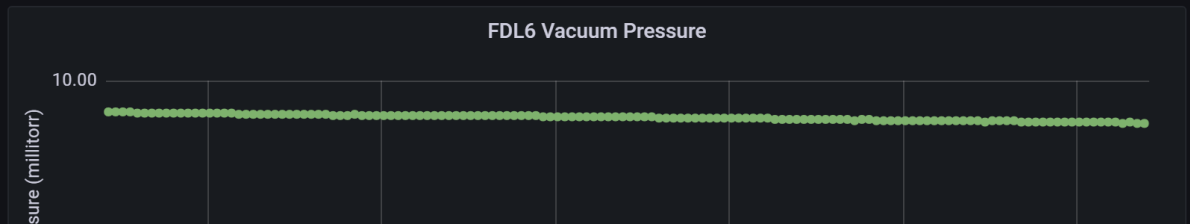
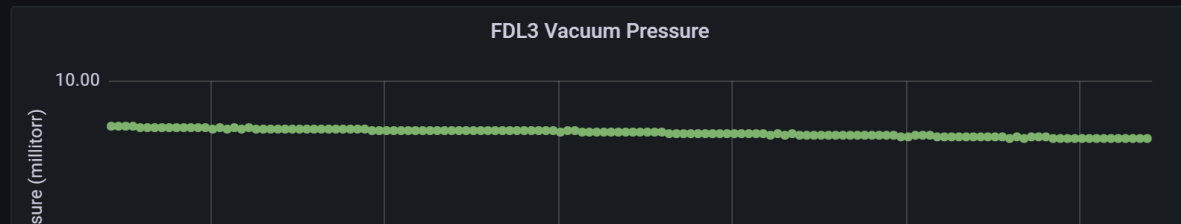
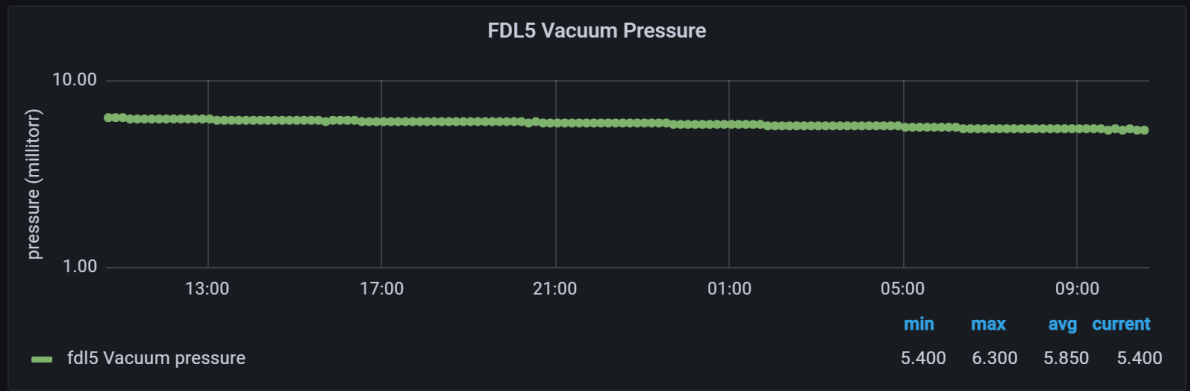
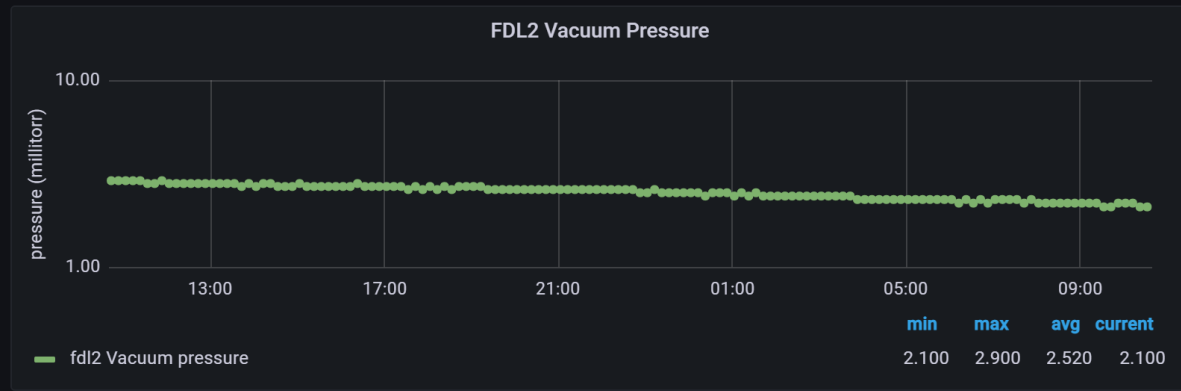
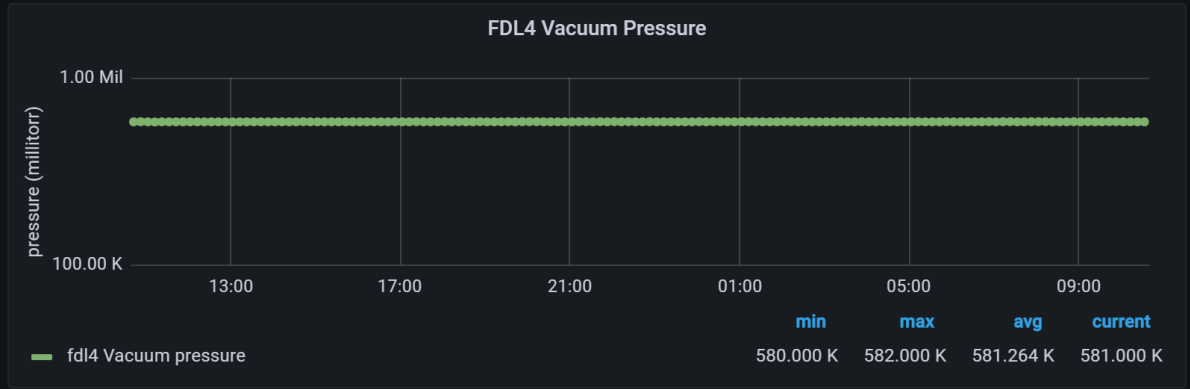
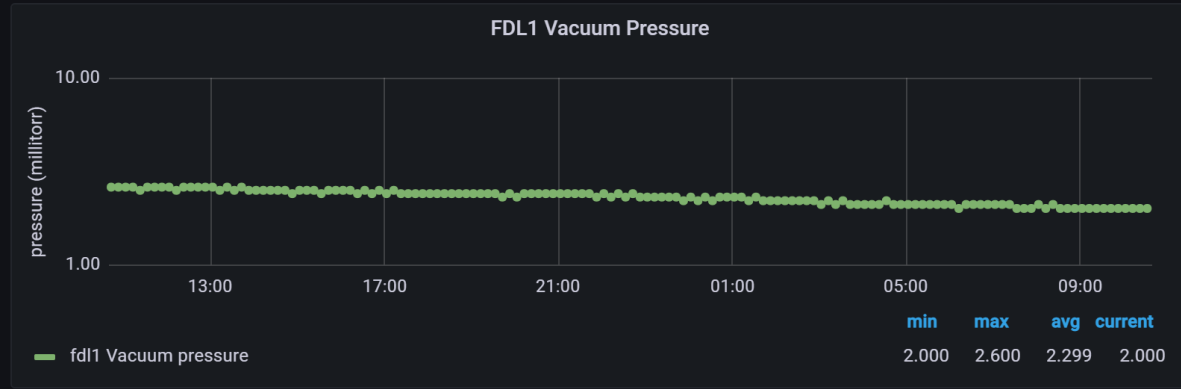
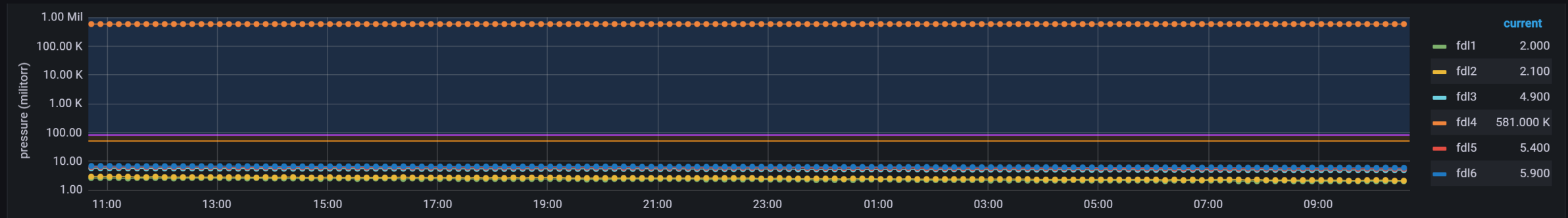
**WARNING**

INNON











# Questions