

Mechanical Engineer
Franco, R.



FRANCO, R.

Mechanical Engineer

EDUCATION

Polytechnic University of Valencia

2019 - 2022

Bachelors in Mechanical Engineering

ADDITIONAL COURSES

MEP Plumbing & Fire Protection Training. Remote training program. 2025

MEP HVAC & Plumbing Training. Remote training program. 2024

IELTS Diploma de Inglés. Score: 8/9. 2024

Reverse Engineering: ZEISS Quality Suite. On site training program. 2023

DELFB2 French Proficiency Diploma. Spain. 2021

I am a Mechanical Engineer, graduated with a minor in Machine Design. I have experience working in the Building Information Modeling (BIM) industry for US clients, where I used Revit and Navisworks. I also have experience in the design and manufacturing of industrial machinery, where I worked with SolidWorks, Inventor, AutoCAD, and reverse engineering software.

SOFTWARE

SolidWorks ●●●●○

Inventor ●●●●●

AutoCAD ●●●●○

Revit ●●●●○

Navisworks ●●●○○

Others: PTC Creo, Matlab

LANGUAGES

Spanish ●●●●●

English ●●●●●

French ●●●●○

WORK EXPERIENCE

ARCON PLUMBING

(New York, USA)

MEP Engineer

Jun 2025-Present

Main task list:

- Design of plumbing and fire protection system models and drawings
- Coordination with MEP disciplines
- Preparation of technical documentation for presentation and submittal documents

ENG BIM / U.S. Engineering

(Alabama, USA)

MEP BIM Engineer

Jan 2025-May 2025

Main task list:

- Development of MEP models and drawings
- Clash detection and design optimization
- Collaboration with multidisciplinary teams for efficient integration of disciplines within the BIM environment

ENG BIM / Exyte

(Arizona, USA)

Mechanical Design Engineer

Jul 2024-Dec 2024

Main task list:

- In charge of generating mechanical, architectural, and structural drawing packages
- Responsible for IFC (Issued for Construction) deliverables

WORK EXPERIENCE

CYMI

(Lima, Peru)

Ingeniero HVAC

May 2024-Jul 2024

Main task list:

- Development of the assembly and installation of HVAC engineering systems
- Utilized CAD-CAE software to oversee HVAC engineering drawings and calculations
- Coordination with technical staff and suppliers

FMI Peru

(Lima, Peru)

Mechanical Engineer

Aug 2023-Jan 2024

Main task list:

- Development of design projects for industrial and mining industry
- Planning, analysis, modeling and execution of machine and structure fabrication
- Conducted FEA analysis and reverse engineering projects

Talleres Mector

(Valencia, Spain)

Machine Design Intern

Dec 2021-May 2022

Main task list:

- Managed the design and analysis of industrial machinery
- Produced detail and assembly drawings
- Worked on budgeting, client communication, and supplier coordination

PROJECTS

MEP



01

289 HUDSON STREET
2025

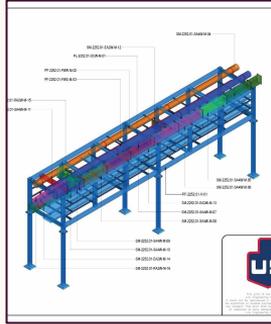
MEP



02

95 MADISON AVENUE
2025

MEP



03

META MAL DATA CENTER
2025

Mechanical



04

INTEL EAGLE FAB 52
2024

Mechanical



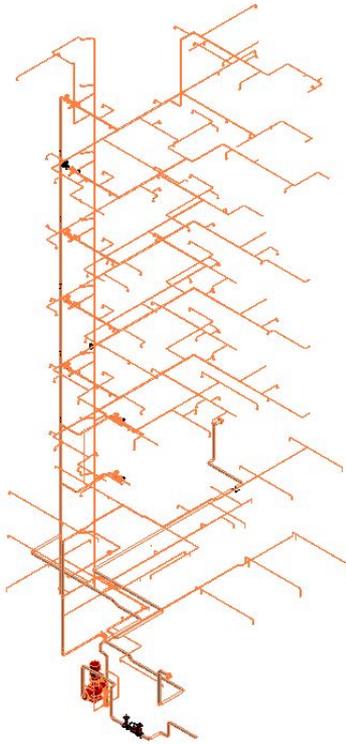
05

VACUUM PUMP R.E.
2024

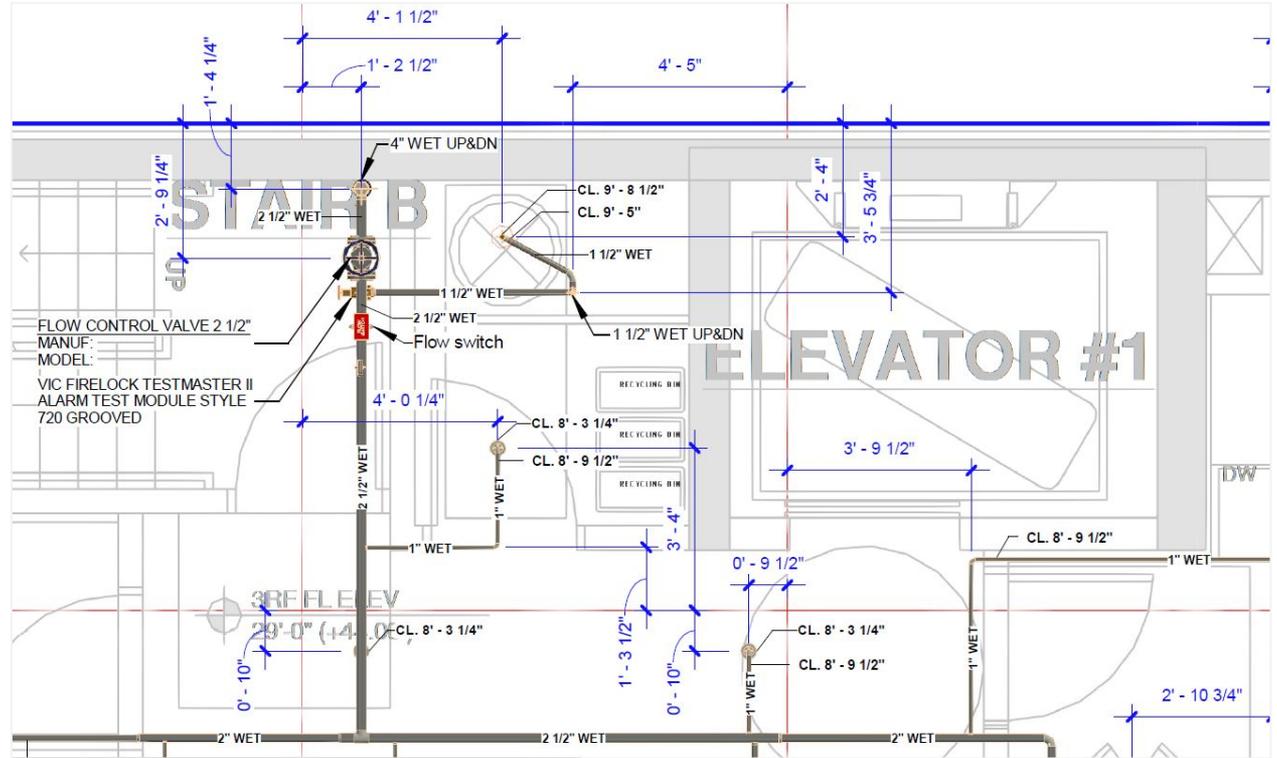


3D sectioned view of the 3rd floor in Navisworks

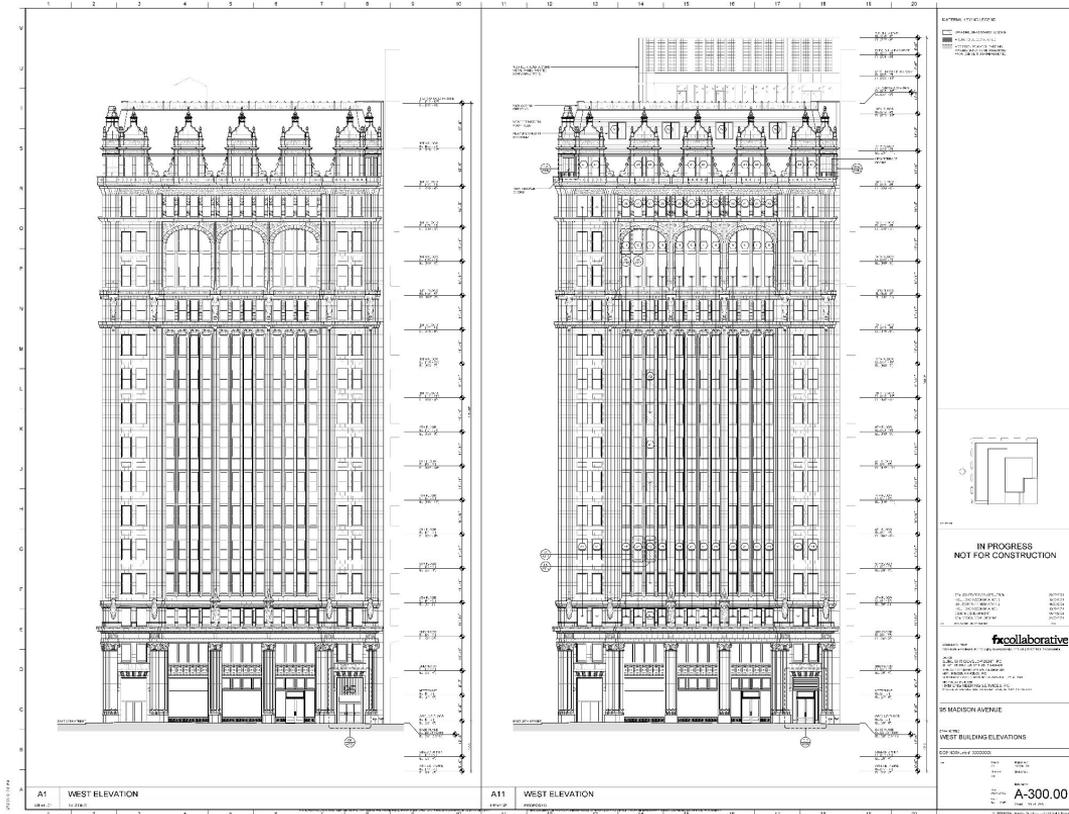
As part of the Fire Protection design, this BIM model was used to run clash detection reports with HVAC, plumbing, and structural systems. Identified clashes were reviewed and resolved through coordinated design revisions to ensure a smooth installation process.



Building System FP 3D View



3rd Floor Shop Drawing



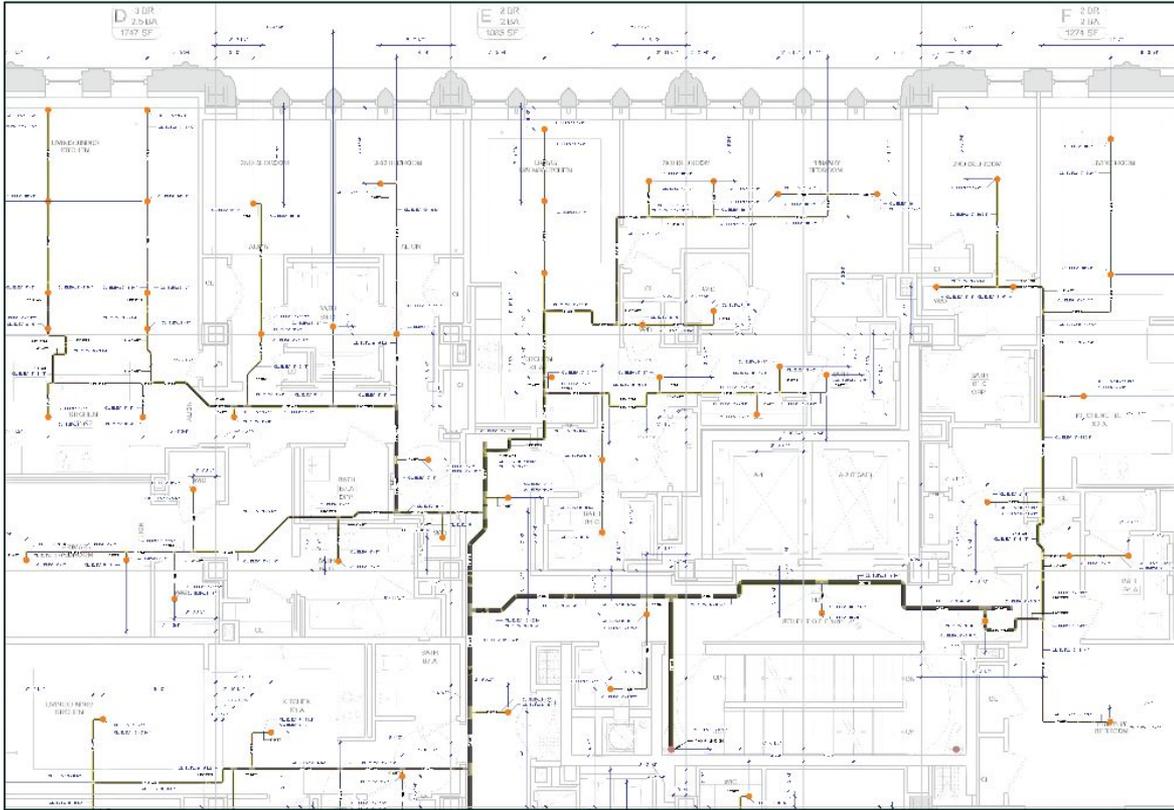
Building elevations drawing



Isometric view of building roof and upper floors

Plumbing and fire protection systems installation project for an 18-story residential building, located in New York, United States.

I was responsible for managing the modeling process and producing drawings and technical documentation throughout most of the project.

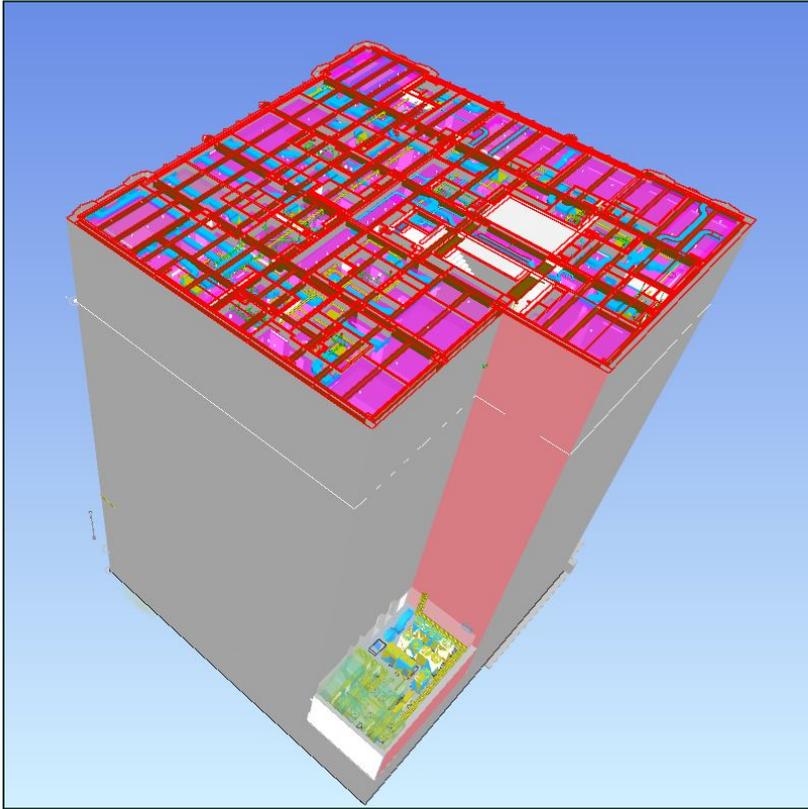


Fire protection system installation drawing

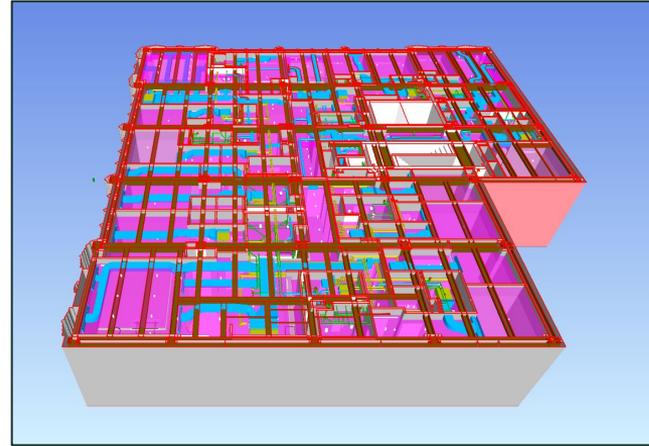
During this project, I was responsible for the design of the fire protection system.

This system was modeled separately from plumbing but was installed by our team in coordination with HVAC, electrical, and structural trades.

The work required redesigns to ensure compliance with the New York City Fire Code and the client's specific requirements.



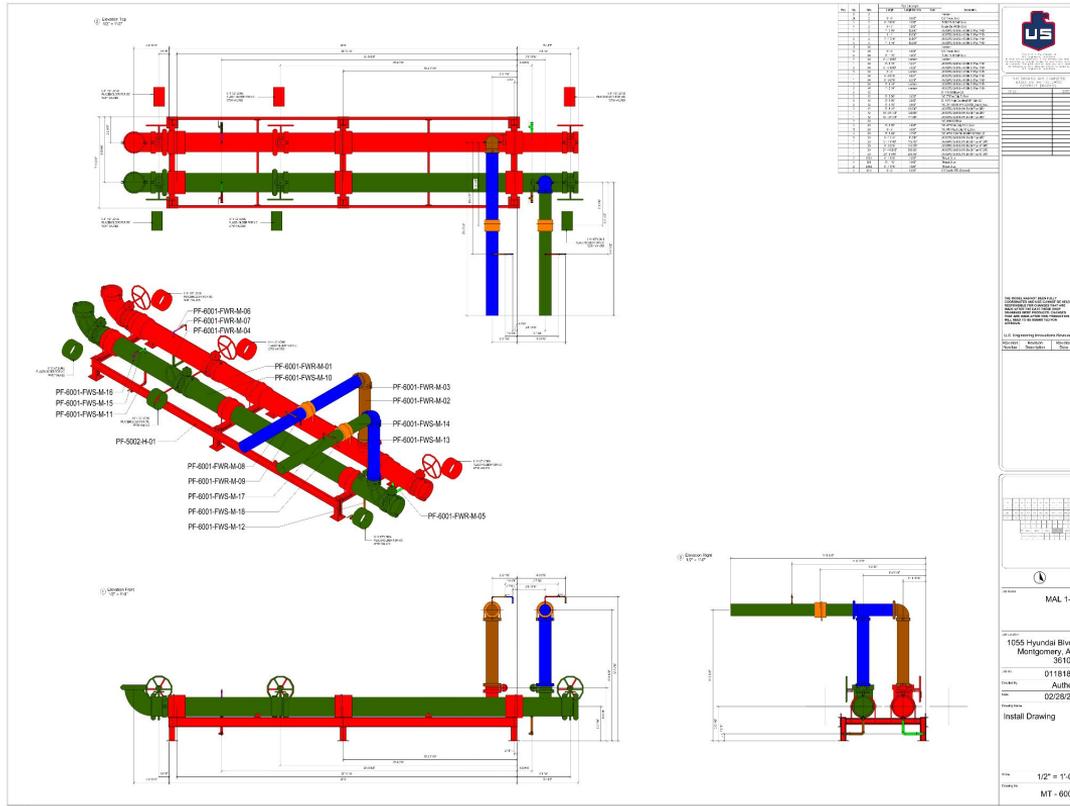
Isometric view of the building in Navisworks, sectioned at the 10th floor



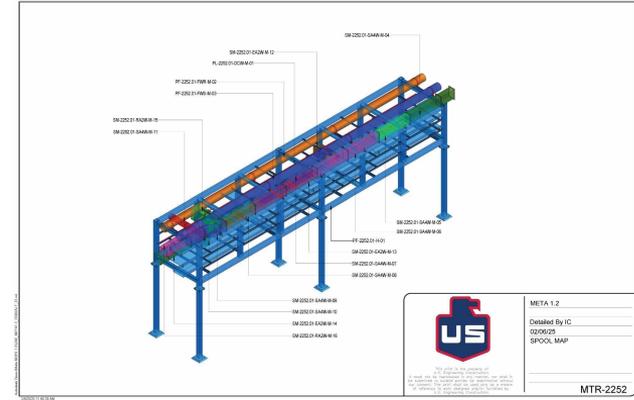
3D sectioned view of the 10th floor in Navisworks

Within the company, I was responsible for managing coordination meetings with the contractor and subcontractors. The images were taken from live remote meetings, in which we resolved design clashes between trades.

It is worth noting that all the work was carried out remotely and the final issued-for-construction drawings were sent to the on-site installation engineers.



Spool Install Drawing



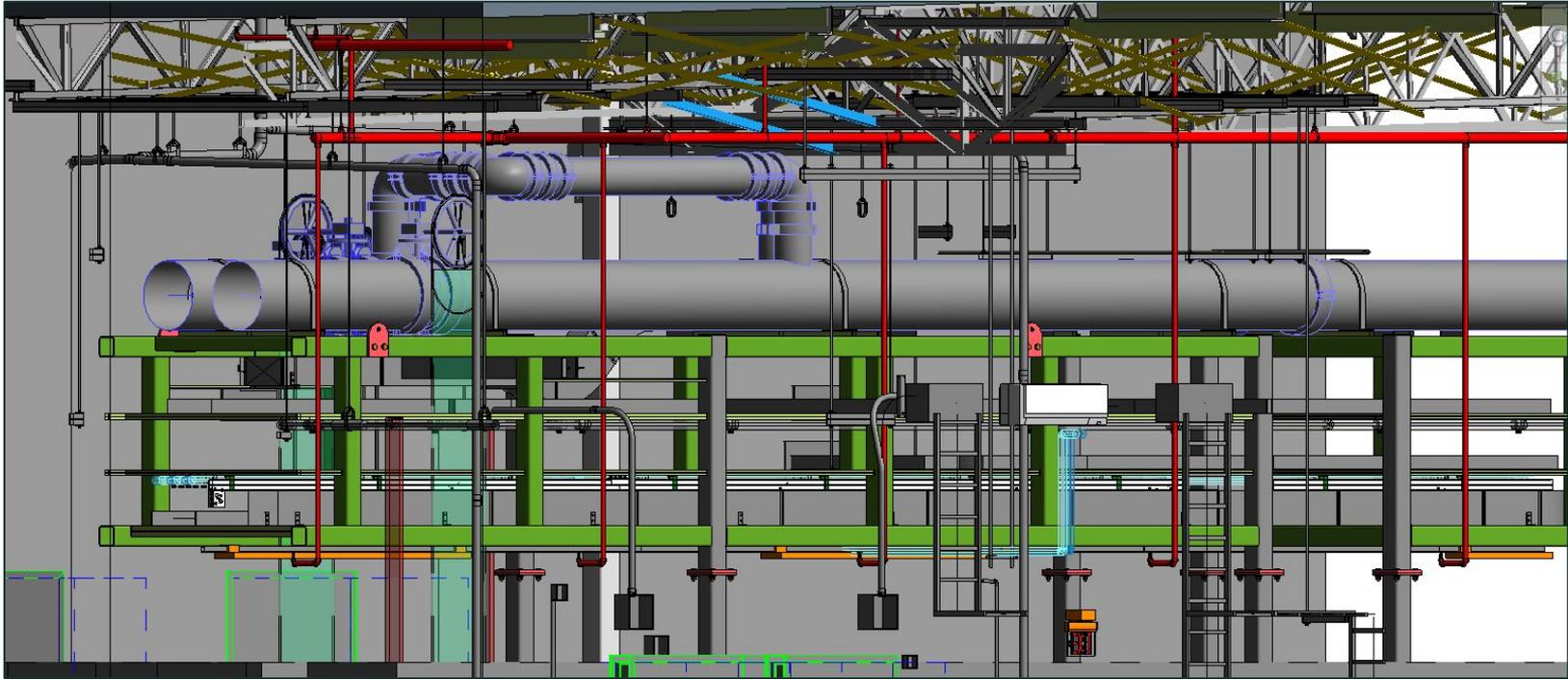
Spool 3D Ortho View

I was hired by U.S. Engineering, which was constructing a data center in Alabama for META (formerly Facebook). I mainly focused on the modelling and drawing production of mechanical piping, plumbing and HVAC systems.

These are a couple of deliverables I worked on with my company: spool install drawing and 3D ortho view.

U.S. ENGINEERING
 1055 Hyundai Blvd
 Montgomery, AL 36105
 0118186
 Author
 02/28/25
 Install Drawing
 1/2" = 1'-0"
 MT - 6001

META 1.2
 Created By IC
 02/05/25
 SPOOL MAP
 MTR-2252



Following the construction of the data center, I was assigned with redesigning mechanical piping based on stress analysis reports.

The image shows a 3D view of the finished work concerning the implementation of flexible couplings .



Mechanical Piping Layout Drawing

One of the recurring tasks in the data center project was the generation of mechanical piping layout drawings.

Attention to detail was very important, in particular the use of tags for pipes, fittings and mechanical equipment, dimensions to the nearest grid line, and slope indicators.

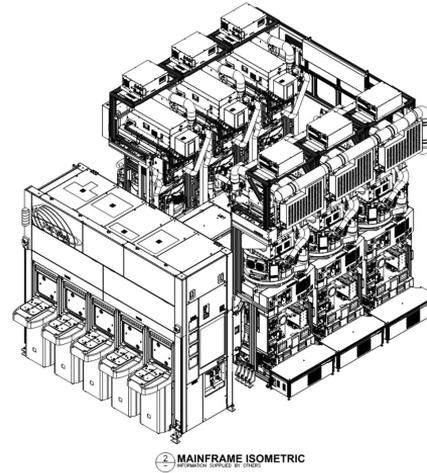


Intel Facilities

FAB 52

My first U.S.-based project was with the construction company Exyte, where I supported the installation of semiconductor manufacturing equipment, commonly referred to as tools.

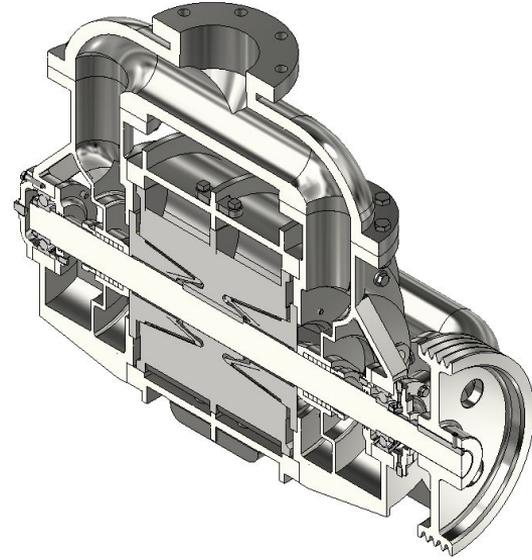
Due to a confidentiality agreement with Intel, I do not retain ownership of the work I completed. The image below shows a typical machine we worked with.



Isometric View of Typical Machine

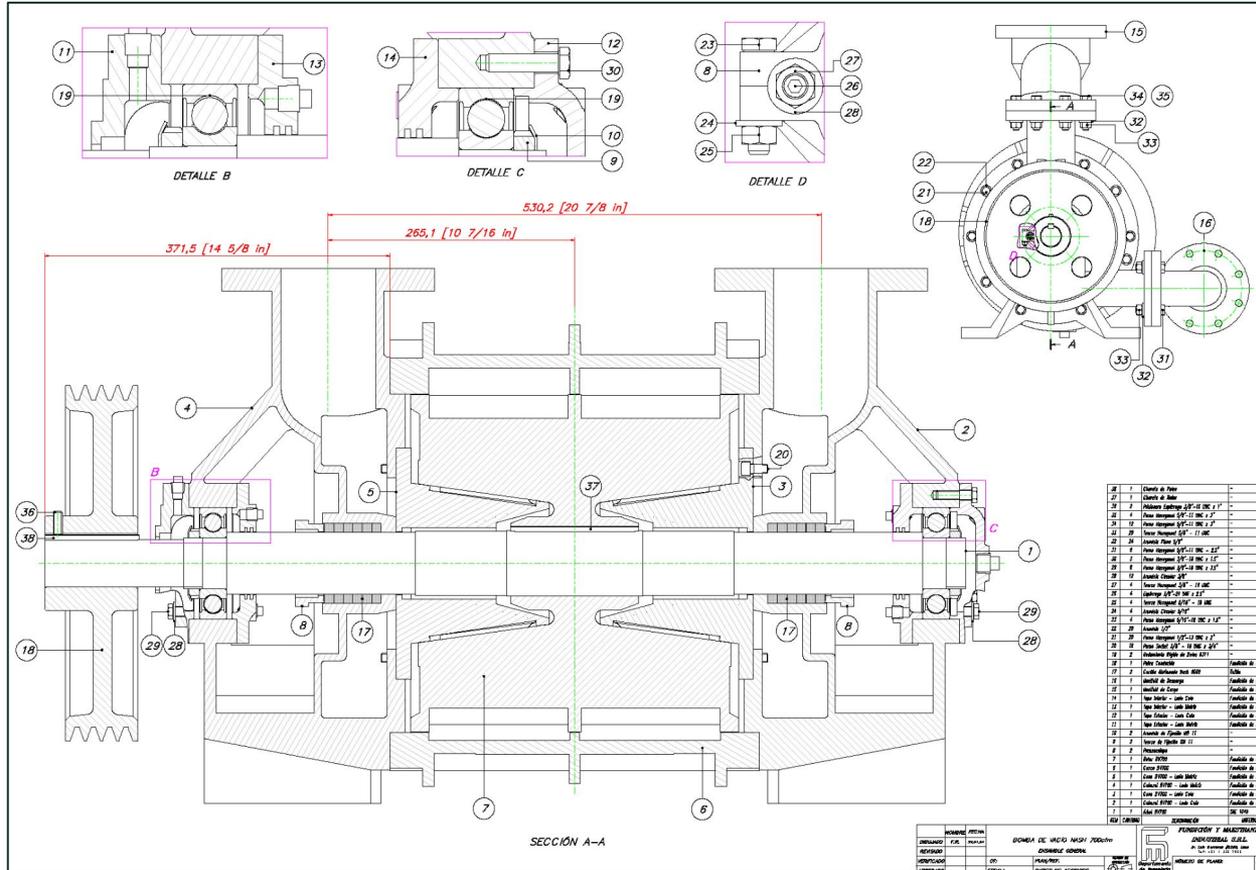


Vacuum Pump 3D Ortho View



Vacuum Pump 3D Ortho Section View

In 2023, I completed training in reverse engineering, which I applied in 2024 to a high-capacity vacuum pump project intended for the mining industry. The assignment involved reconstructing and redesigning a 6000 cfm vacuum pump without access to original technical drawings. The process included physical inspection, precise measurement of existing components, and the creation of detailed 3D CAD models.



6000 cfm Vacuum Pump Assembly Drawing

Thank you

For more information on my
profile, please visit:

