

PROCESS ENGINEER

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Summary

Process Design Engineer graduate with hands-on experience in sustainable energy systems, with strong technical skills in coding, process modelling softwares, PFD and P&ID drafting, sizing of equipments and handling of large data sets and data analysis. I also bring strong process optimization and continuous improvement mindset with Lean Six Sigma Yellow belt. Seeking a Process Engineering role with a element of design component. I am open to travel or relocate if needed.

Work Experience

PROCESS DESIGN ENGINEER

MAKEEN ENERGY EnviroTech, Denmark

September 2024 - September 2025

- Was part of the FEED studies and developed the initial pyrolysis model in modelling software(DWSIM).
- Produced and analyzed data from the DWSIM model for better understanding.
- Performed and reviewed Pressure Safety Valve (PSV) sizing and safety calculations for reactors and condensers following industry standards.
- Developed, Reviewed and validated Process Flow Diagrams (PFDs) and Piping & Instrumentation Diagrams (P&IDs) for the Fredericia plant as part of the FEED.
- Coordinated with cross-functional engineering teams (Denmark & India) to integrate process and piping design.
- Performed data analysis and Developed PYTHON scripts for large data sets during the root cause analysis for better visualization and better understanding.
- Performed heat transfer calculations to simulate nitrogen flow dynamics, ensuring a positive pressure gradient for safe reactor shutdown and air flow prevention.
- Utilized FLUIDFLOW to model pressure losses and optimize piping system layouts.
- Contributed to technical documentation, including functional descriptions and design specifications of components.

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MAKEEN ENERGY EnviroTech, Denmark

August 2024 - September 2024

- Designed the initial process flow model for the Fredericia pyrolysis plant using DWSIM, laying the foundation for process simulation and component selection.
- Created BFDs and stream data tables for early-stage process development activities.
- Contributed to process documentation and collaborated with senior engineers on system layout and mass/energy balance evaluations.

Professional development

Certified Lean Six Sigma White Belt and Yellow Belt - Quality Gurus

Accredited certification from Quality Gurus Inc.

PSV Sizing and Flare Sizing - EIEPD

Certified course for PSV and flare sizing from basic to advanced from EIEPD

Pump, Compressors and Control Valve sizing - Udemy

Certified Udemy Course for understanding and designing of centrifugal pumps, compressors and control valves using excel.

Heat Exchanger Design, Operation and Maintenance

Certified course to understand, operate, design, and troubleshoot heat exchangers for optimal plant performance.

AutoCAD P&ID Essential Training - Linkedin Learning

Certified course from Linkedin Learning

Volunteer

Dansk ICYE

Camp Committee Member

March 2025 – Present

- Contribute to planning, coordination, and smooth execution of national camps.
- Collaborate with team members to manage logistics, activities, and participant engagement.
- Represented Dansk ICYE at International ICYE camps across the EU to exchange knowledge and best practices for effective camp management.

Educational History

MASTERS IN ENERGY ENGINEERING SPECIALIZING IN THERMAL AND PROCESS ENGINEERING

Aalborg University, Aalborg, Denmark

2021-2024

B-TECH MECHANICAL ENGINEERING WITH SPECIALIZATION IN ENERGY

Shiv Nadar University, Uttar Pradesh, India

2016 - 2020

Skills

- Process modeling & simulation (DWSIM, Aspen HYSYS, FluidFlow, MATLAB, Python)
- PFD & P&ID development (AutoCAD Plant 3D, Microsoft Visio)
- Process optimization and Continuous improvement.
- PSV, Equipment sizing and datasheets development
- Energy and Material Balance
- Heat transfer calculations
- Data analysis & visualization (MATLAB, Excel, Python)
- Technical documentation & presentation (LaTeX, PowerPoint)

Achievements

- Published a conference paper titled "**Performance improvement of PVT module with applications of nano-fluids and phase change materials: A review**" at ICE3-2020
- Received a **UPCST grant of Rs 20000** for research work.
- Received a '**Class A**' scholarship to do study Mechanical Engineering at Shiv Nadar university and was also placed in the **Dean's List** in one of the semester for exceptional performance.

Languages

Tamil - native

English - Bilingual proficiency

Hindi and Telugu - Conversational proficiency

Danish - Started learning

Reference

David Junkuhn Friis

Process Design Manager, Makeen Energy

Former Manager at Makeen

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Randers, Denmark

About me

I'm a very honest and friendly person who loves to travel to explore new places just as much as I enjoy relaxing with good music. In my spare time, I'm always up for activities such as outdoor sports like badminton or cricket, or a fun board game night with friends or anything where I have to be active. I also enjoy attending events, social gatherings and creating memorable experiences with people.