Hussnain Ahmed Yaser, P.E.

Summary

- Master's in Mechanical Engineering with 12 years' hands-on experience in developing, evaporative, dry, and adiabatic cooling products.
- Expertise in product design optimization and thermal performance improvement using lab results, thermal simulation tools, and vendor's technical data.
- Experienced in hydronic system design, industrial refrigeration piping design, pumps and fans selections, and heat exchangers' analysis.
- Lead the cross-functional team to troubleshoot complex technical issues in the field.
- Proficient in airflow management for precise temperature and humidity control inside the room.
- Working knowledge of adiabatic cooling, free-cooling, direct liquid cooling, and other types of data center cooling systems.
- Improve the R&D lab thermal testing processes and VBA sub-routines.

Experience

Baltimore Aircoil Company, Jessup - MD
Global Thermal Test Lead **08/2022 to Present**

- Lead the team to improve the new products design and thermal efficiency by utilizing simulation tools, lab thermal test data, and vendors' technical data (fan and pump curves).
- Lead the cross-functional team to troubleshoot the cooling towers and evaporative condensers thermal performance and system operational issues in the field.
- Lead the factory acceptance tests to meet the thermal performance and product design specifications for critical cooling applications (Data Centers, Hospitals, Airports, etc.).
- Provide technical expertise to design and build thermal testing labs, including the system layout design, pumps and fans selection, pipes and valves sizing, boilers operation strategy, and troubleshoot the system start-up issues.
- Provided technical expertise to refurbish and improve the BAC evaporative condensers testing facility and in the event of an incident, fulfill the incident commander role.
- Lead the annual product line CTI (Cooling Technology Institute) thermal certification testing at BAC and ensure that each product line meets the CTI-certified thermal ratings.
- Drafted a comprehensive evaporative condenser piping manual to help the sales and applications team to quickly answer the evaporative condenser's installation questions.
- Improve the R&D lab thermal testing processes and VBA sub-routines to expedite thermal test data analysis, improve lab efficiency, and quality of the test data.
- Develop guidelines to conduct thermal testing, steps to troubleshoot thermal performance issues in the field, and lead training for new thermal test engineers and lab technicians.

Daikin Industries Limited, Houston - TX
Engineering Team Lead – Light Commercial Splits **08/2021 to 07/2022**

- Led the light commercial design engineering team to develop split air-conditioners and heat pumps to meet the Department of Energy 2023 energy efficiency requirements.

- In alignment with the overall project milestones, developed a detailed design engineering schedule (testing, design, and trial builds) to ensure that the design team meets all the project deliverables in a timely manner.
- Led the cross-functional collaborations to develop decision matrices and make optimal design decisions to meet technical challenges and business needs.
- Led DFMEA, design and quality reviews, cost reviews, and stage-gate reviews at different stages of the project.
- Led the efforts to collaborate with compliance, supply chain, and certification agency to meet the UL 60335 2-40 requirements.
- Reviewed and improved the product design to reduce manufacturing complexity, standardized parts across different product lines, reduced cost, and improved product reliability.

Baltimore Aircoil Company, Jessup - MD
Global Product Platform Engineer – Evaporative Condensers 06/2019 to 07/2021

- Led the development of new evaporative condensers and fluid coolers from stage-gate-1 to stage-gate-4 (product specification, design, prototype selection, testing, design validation, launch, post-launch product support).
- Prepared and presented thermal performance, airflow rate, and cost comparison analysis at different stages of product development.
- Worked with an outside service provider to plan and execute the CFD simulations to quickly iterate through the design ideas to finalize the product design.
- Drafted test reports and worked with the lead designer to improve the product design.
- Developed decision matrices and led the cross-functional discussions to make optimal design decisions.
- Conducted DFMEA for the new products with Quality, Manufacturing, Warranty Service, and other cross-functional teams.
- Performed root cause analysis to promptly identify and resolve the field issues for the newly introduced product lines and made design improvements.

Baltimore Aircoil Company, Jessup - MD
Thermal Test Engineer / Advanced Thermal Engineer 09/2013 to 06/2019

- Led multiple NPI projects during the development of CTI certified thermal ratings
- Proposed design improvements to improve thermal performance and lower the cost of the product to meet the NPI targets.
- Conducted annual thermal certification tests to maintain the Cooling Technology Institute (CTI) thermal certification for ten product lines.
- Provided thermal technology support to the existing product lines for special marketing and sales selections for high sales value projects (projects worth over $1 million).
- Developed and executed thermal test plans to validate innovative evaporative heat rejection technologies.
- Provided thermal expertise to predict the thermal performance of the new technologies.

CTI and IIAR Technical Committees Work

- Represent BAC at Cooling Technology Institute (CTI) and International Institute of All-natural Refrigeration (IIAR) in numerous technical committees.
- Lead and/or participate in CTI technical committee discussions to develop standards and guidelines for heat rejection equipment.
- Collaborate with the representatives from the other organizations (customers, competitors, suppliers) to draft new test codes, standards, and guidelines.
- Chairman of STD-201 Adiabatic, Thermal Certification Standard for Adiabatic Fluid Coolers – Expected to publish in Feb 2026.
- Voting member of CTI's test codes: ATC-105, ATC-106, ATC-150, and ATC-174
- Member ASHRAE

Education

- **Master of Science in Mechanical Engineering** **04/2014**
  University of Cincinnati, Cincinnati, OH
- **Bachelor of Science in Mechanical Engineering** **06/2008**
  Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan