

DEREK SPENCER DUCKWORTH

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Mr. Duckworth joined ETA International in 2021 after graduating from Oklahoma Christian University with a B.S. in Mechanical Engineering. He has 2+ years of experience in mechanical design, testing and instrumentation. He is proficient in SolidWorks, Autodesk Nastran FEA, and VA Structural Analysis. In addition, he has experience with conducting tests to ASME and API Standards.

EDUCATION

BS Mechanical Engineering

Oklahoma Christian University, 2021

EMPLOYMENT HISTORY

2021-Present: ETA International Inc., Mechanical Engineer

2018 - 2020: ETA International Inc., Mechanical Engineer Intern

AFFILIATIONS

American Society of Mechanical Engineers

Toastmasters International

TYPICAL PROJECT EXPERIENCE

Mr. Duckworth's project experience includes the following categories.

Spoolable & Flexible Pipe

Development of data acquisition, pressure, and temperature control systems for long duration testing.

Design, fabricate, and operate controlled fluid test chamber capable of:

- Up to 230°F +/- 0.5°F
- Up to 5,000 PSI +/- 1%
- Up to 16 - 10 in. diameter, 11 ft. length samples
- Over 10,000 hours at temperature and pressure
- Minimum User Input

Conduct full-scale burst testing on offshore oil hoses.

Conduct pressure cycling and permeation testing on various products with high temperature & high pressure volatile gases.

Structural Design & Analysis

Conduct design and/or analysis of the following:

- Cross Arm Testing Frame
- Robotic Arm Support Frame
- Personnel Fall Protection Cage
- Modular Heavy Duty Vehicle Ramp

Electrical Utility Cross Arm Testing

Design, setup, and operate electrical utility cross arm testing frame capable of:

- 142 kip-ft max moment
- 50,000 lb tension
- 24 in. stroke
- Continuous Data acquisition

Oilfield Equipment Development and Testing

Re-design existing downhole tool housing system to include pressure and acceleration readings.

Test electronic submersible pump with high gas to liquid ratio while monitoring temperature and high vibration.

Design and test components for low-pressure relief mechanism for oil storage tanks.

Test capacitive discharge on downhole perforating tools.

Project Management

Acted as Project Manager & Lead Engineer for the development and testing of an electrical utility cross arm testing frame.

- Project duration: 1.5 years
- Project budget: \$40,000