

Justin R. Palmer

Principal Design Engineer

justinrpalmer@gmail.com • justinrpalmer.com • linkedin.com/in/justinrpalmer • (610) 721-6244

Professional Summary

Proven, results-oriented mechanical engineer with 18 years of experience developing and sustaining complex electro-mechanical assemblies in medium-volume manufacturing environments. Skilled in 3D CAD, new product development, prototype assembly, and design validation. Demonstrated experience collaborating with global teams and supporting operations, procurement, product management, and external sales.

Experience

Dynaflco, Inc. – Reading, PA

Principal Design Engineer

July 2025 – Present

- Responsible for the clean-sheet development of the DL065, Dynaflco's first liquid eccentric diaphragm pump, achieving a 30% increase in maximum flow rate compared to similarly sized competitive pumps
- Spearhead the design and configuration of the DG250, a modular platform with programmable BLDC motor, competing with rivals on flow and pressure while delivering 25% less weight and physical size
- Serve as subject matter expert, including QA/QC, manufacturing operations, and engineering best practices for new and legacy Dynaflco product line and provide external applications engineering support
- Perform competitive analysis, supply chain management, and mentorship of junior engineers

Veeco Precision Surface Processing – Horsham, PA

Senior Mechanical Engineer

February 2024 – July 2025

- Performed development and continuous improvement of belt-driven robotic handlers for pick and place robots used in complex wet processing machines for semiconductor fabrication
- Reduced inbox quality incidents by 20% for contract-manufactured and site-built assemblies through component tolerance analysis, BOM scrubbing, and enhanced engineering documentation
- Increased customer up-time and processing throughput by 15% while improving preventive maintenance intervals three-fold via redesign of critical belt tension mechanism used in new and legacy products

KNF Neuberger, Inc. – Trenton, NJ

Principal Engineer

June 2023 – February 2024

Staff Engineer

October 2019 – June 2023

- Established new documentation process as part of Lean Six Sigma Green Belt project, reducing top assembly mistakes by 50% using streamlined pump build sheet descriptions and improved language
- Worked closely with external customers and the internal sales team to select, design, and produce pump configurations tailored to specific applications and device requirements
- Evaluated, developed, and tested alternative pump technologies and new diaphragm pump concepts
- Interviewed, trained, and mentored new engineers for multiple internal engineering departments

Thomas – Ingersoll Rand Medical – Sheboygan, WI

New Product Development Engineer

November 2017 – October 2019

- Designed 2109Z compressor to reduce physical size, weight, and cost by 25% compared to 2110Z without sacrificing performance, using optimized and net shape magnesium die-cast components
- Developed rocking piston compressor prototypes with BLDC motors for portable oxygen concentrator customers based on specific device requirements, size constraints, and manufacturing cost targets

- Implemented rapid manufacturing processes for prototype assembly using additive manufacturing and CNC machining to yield approximately 50% reduction in customer lead times
- Created engineering DOEs and DFMEAs for new product concepts to ensure design feasibility and compliance with customer requirements and all applicable external regulations

Hale Products, Inc. – Ocala, FL and Conshohocken, PA

Global Applications Manager – Portable Pumps

November 2014 – October 2017

- Developed and maintained engine-driven portable pump designs generating \$5 million annually by leading engineering and product management efforts for US-built pumps under Hale Products brand
- Reduced product line complexity by 50% and improved profitability by consolidating available SKUs while eliminating historically low-margin and low-volume pump assemblies
- Performed engineering design and created global documentation for centrifugal and rotary vane pumps including installation drawings, performance curves, and marketing collateral

Product Engineering Manager

March 2012 – November 2014

- Directed engineering development of CAFS pump project with initial \$1 million, 25-piece order requiring design, manufacture and shipment within three months of receiving customer purchase order
- Managed and created engineering documentation for all vehicle mounted fire pumps, accessories, and foam products generating revenue of \$30 million annually
- Trained engineers and operations personnel on manufacturing best practices, pump assembly, quality control, NFPA 1901 performance testing, and Hale product history

Mechanical Engineer

June 2008 – March 2012

- Designed QMAX-XS midship pump to reduce physical size by 33% compared to standard QMAX while maintaining pump performance and providing additional water outlet configuration options
- Developed in-house an SAE “C” hydraulic drive adapter for use with PTO-driven fire fighting foam systems resulting in an 80% cost reduction versus a similar commercially available assembly
- Provided applications engineering solutions, supported manufacturing and NFPA 1901 test validation activities, and created detailed test reports

Skills

Product Development, Product Lifecycle Management, Prototyping, Casting and Machining, Injection Molding, Additive Manufacturing, Lean Six Sigma, PFMEA, DFMEA, DFMA, GD&T, Root Cause Analysis
Pumps, Compressors, Gearboxes, Electric Motors, Internal Combustion Engines, Hand and Power Tools
CREO, Windchill, SolidWorks, ECTR, Fusion 360, Basic CFD and FEA, SAP, D365 Business Central, Salesforce

Education

University of Florida – Gainesville, FL
Master of Business Administration

December 2014

Drexel University – Philadelphia, PA
Bachelor of Science in Mechanical Engineering

June 2010

Certifications

Lean Six Sigma Green Belt, June 2022
Certified SolidWorks Associate – Additive Manufacturing, March 2019
Certified SolidWorks Professional, February 2019