

## Summary

### What can I offer you?

Mechanical Engineer with 8 years total engineering experience; 5 recent years in the medical device industry.

- Extensive hands on and machine shop experience throughout my career.
- High SolidWorks competency, CAD experience throughout my career.
- Experience using Minitab with extensive Minitab statistical training.
- Experience and education as an ISO 13485 (ISO 9001 for medical devices), internal auditor.
- Extensive experience with CAPA, ECO, NCA, DHF, Design Review, NCR's, BOM, dFMEA, and pFMEA.
- Extensive mechatronics and electrical controls experience including programming languages from Assembly to PLC's to LabVIEW and 2-axis encoder programming.
- UDI, packaging, and labeling experience.
- Marking laser experience on plastics and metals.
- Cadence Project Management Certification
- Experience being challenged in all stages of product lifecycle.
- Extensive experience writing process instructions and training operators.

### What am I looking for?

- Full time, to continue living in Santa Clara, CA, and max 1 week per quarter travel.
- W2 employment, highly prefer direct hire, but will consider contract to hire.
- I am open to: Mechanical, NPI Manufacturing, Manufacturing, Design, R & D, Development Engineer, or similar positions.

## Skills

- **Medical end uses:** Cord Blood Stem Cell Separation, Electrophysiology, CardioVascular, Neurostimulation, Endoscopy, Surgical Robots, Cancer Treatment, Peripheral Arterial Disease, Atrial Fibrillation, Catheter, Stomach Bypass, Renal Denervation Treatments, Acoustic Domes
- **Plastic Processes:** RF Tipping, RF Compression Molding, Embedded Marker Band, Micro Molding, Threading, Coils, Kink Resistant Tubing, Flaring, Shaped Tubing, Core Drilling, Bonding, Joining, Spiral Cutting, Medical Grade Adhesives, Disposables, Laser Marker
- **Materials:**
  - **Plastics:** Pebax, PVC, Polyurethane, Peek, Polycarbonate, PTFE / Teflon, Silicone
  - **Metals:** Nitinol, S-7, H-13, W-1, SST 303/304, 6061, MIC 6, sheet metal
  - **Coatings:** Teflon , Magnaplate, Anodization, and Alodine
- **Machine Shop:** Mill, Lathe, Grinders, Spade Drill, Polishing, Laser Marker, 3D Printer, Casting, Rapid Prototype Machine
- **Design Control:** ISO 13485, CAPA, ECO, NCA, DHF, DR's, NCR, BOM, Validation, and pFMEA
- **Software:** Solidworks with EPDM and GD&T, AutoCAD, Ansys FEA Analysis, Minitab, FileMaker, ProjectLibre, IQMS, Bartender
- **Programming:** Quicksilver Controls (2-axis encoder programming), LabVIEW, HC12 Micro controller in Assembly, g-code, Fortran, PLC's; Moeller, Twido, Allen Bradley
- **Electrical wiring and controls:** LVDT's, Strain Gages, String Pots, Relays, and Contactors
- **Misc.:** Pneumatics, Hydraulics, Pull / Tensile Test, Bend Test, Tolerance Stack Up, Project management, Thermal Camera, Tappi, Various IT / Computer Skills, Statistics, EFD Dispensers, Automated Wire Stripper.
- **Labeling:** UDI Labeling, MicroScan Label Verification, Zebra thermal transfer printers

## **Education**

### **Cal Poly University, San Luis Obispo**

Bachelor of Science in Mechanical Engineering

Concentration in Mechatronics

Minor in Mathematics

### **ASQ Silicon Valley Biomedical Division**

- FDA Notified Body and Internal Auditing
- Design Control
- DOE

### **UCSC - University of Santa Cruz**

Medical Device Verification and Validation

### **Cadence Project Management Certificate**

### **Minitab Training**

DMAIC (internal training at MPC) and 20-hour online Minitab course which together included: DOE, Response Optimization, Gage R&R, t-test, f-test, Confidence Intervals, Process Capability (Cpk, Ppk), ANOVA, Correlation, poka yoke

## **Professional Experience**

### **MedPlast – Medical Device Contract Manufacturing**

Manufacturing Engineer (2/16 – current position)

#### **Responsibilities**

Develop processes and fixtures for medical device assembly and secondary processes. From proof of concept through sustaining.

#### **Accomplishments**

Ramped up manufacturing of cord blood stem cell separation disposable. Up to 10 operators on the production line with a customer demand of up to 6,000 devices per month on the packaged device level. Defined visual standards. Troubleshoot Keyence laser system, Komax wire stripper, and performed DOE on Belco Tray Sealer. Wrote protocol, report, and performed validation on new oven. Internal auditor to assure ISO 13485 compliance. Implemented UDI labeling projects.

### **Corpus Medical – Medical Device Contract Manufacturing**

Manufacturing Engineer (5/15 – 12/15, 7 months)

#### **Responsibilities**

Develop manufacturing processes. Design and implement fixtures, tools, and semi-automated equipment. Set-up and maintain manufacturing lines. Manage resources and schedules.

#### **Accomplishments**

Successfully sustained an Electrophysiology 3D Rotor Mapping solution catheter for finding arrhythmia in the heart up to the packaged device level. The device was produced at a volume of 50 per week, with about 16 operators building the device (8 hours of labor per device). Improved overall company wide systems.

# Modified Polymer Components – Medical Device Components

## Compression Molding

Development Engineer (4/12 – 2/15, 3 years)

### Responsibilities

Owned several medical device projects at a time, for various medical device customers, with various end uses, from proof of concept to transfer. Responsible for entire project from: planning and designing, to making first 5 parts, developing and documenting process, troubleshooting, pFMEA's, managing BOM's, validation, and ultimately transferring.

Used Solid Works on a nearly daily bases to design dies, tooling, fixtures, ect. Beta tester for Solid Works EPDM implementation. Ensured tolerance stack up wasn't an issue between tooling and material. Frequently used PLC's to control timing in the semi-automated manufacturing processes. Used machine shop to make fixtures and die's. Suggested DFM changes to customers. Used Design Review process to implement feedback on making the process more manufacturable. Used customer requirements to implement inspection and testing procedures like pull/tensile test, bend test, and proof test. Used Minitab to show process capability (Cpk, Ppk), suggest tolerance intervals to customers, and analyze/run DOE results. Used many coatings and materials. Some exposure to geometric tolerancing. Internal auditor to assure ISO 13485 compliance.

### Accomplishments

- Brought in fiber LED system to allow inspection of internal features and defects without the expense of an x-ray scanner.
- Increased yield and visual quality by replacing a clamping system with a screw system.
- Made a dual layered tapered OD and ID catheter possible by re-evaluating tolerance stack up.
- Created generic spiral cut rig and drawing that was used by fellow engineers to do their spiral cut jobs.
- Improved safety, upgraded, and fixed old Wraptor to work similar to new Wraptor.
- Became go to guy for Minitab questions and issues. Created flow chart for all employees to easily track down their desired command.

## ConXtech - Construction

R & D Engineer, Detail Manager, IT (1/06 – 2/12, 6 years total, apx. 3 years engineering and 3 years IT)

### Responsibilities

Lead Engineer for the electro-mechanical portion of projects. Managed and organized structural drawing standards. Maintained and improved ConXtech's IT infrastructure and desktop support.

### Accomplishments

- Synchronous lifting hydraulic controls: Designed, fabricated, and programmed PLC controls for the synchronous hydraulic lifting mechanism on the ConXL robot weld system (inexpensive alternatives were not available in the market).
- DAQ and controls: Designed, fabricated, and programmed DAQ and controls using LabView for the ConXL test frame. This allowed in-house testing of the ConXL Frame.
- FARO Arm: Used a robotic arm to compare completed parts to their CAD model.
- SX Drawings: Organized and fixed a full set of best-known methods for structural drawings in AutoCAD to provide structural engineers with a standard to design from using ConXtech's system.