

The Product Resources

Fact Sheet

**Complete overview of
company capabilities,
applications, specifications
and experiences**



Product Design | Contract Manufacturing | Post-Production Services



FACTSHEET

Product Resources

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Product Resources is a contract manufacturing,
engineering design and product development company.

Table of Contents

Capabilities	Page 4
Services	Page 4
Industries Served	Page 5
Product Design & Engineering Specs	
• Engineering Capabilities	Page 5
• Design Offering	Page 5
• Product Concept Offerings	Page 6
• Product Specifications Checklist	Page 6
• Prototype Capabilities	Page 7
Contract Manufacturing Specs	
• Manufacturing Considerations	Page 7
• Manufacturing Facility and Resources	Page 8
• Production Process and Capacity	Page 8
• Regulatory Experience	Page 9
• Quality Accreditation	Page 9
Schedule Availability	Page 9
References	Page 9
Sample Projects	Page 10
Inquiries	Page 11

Capabilities

- Product Development
- Robotic Systems
- Electro-Mechanical Assembly
- Electronic Design/Assembly
- Complex Instrumentation
- Software Development
- PCB Development
- Intrinsic Safety/ATEX

Services

Product Design & Engineering

- Engineering
- Prototype
- Regulatory
- Validation

Product Manufacturing

- Supply Chain Management
- Sourcing
- Assembly
- Sub-Assembly
- Calibration
- Testing

Inventory, Service & Support

- Deliveries
- Field Service
- Repair/Calibration
- Spare Parts

Industries Served

Product Resources provides specialized and complex engineering and complete manufacturing services for these industries:

- Biotechnology/Life Sciences
- Pharmaceutical
- Medical devices
- Industrial Manufacturing (OEM)
- Industrial Automation
- Environmental
- Electronics Manufacturing
- Biometric Characterization
- Explosive Atmosphere/ATEX Manufacturing

Engineering Capabilities

- Industrial design
- Mechanical engineering
- Electrical engineering
- Embedded systems design
- Software development
- Printed circuit board design
- Manufacturing engineering (DFM)

Design Offerings

- Industrial Automation
- Electronic and Mixed Signal
- Mechanical
- Instrumentation
- Embedded Software
- Web Enabled Product
- Database Software
- Design Verification

Product Concept Offerings

- Industrial Design
- 3D Modeling
- Software Flow Design
- Regulatory Requirement Reviews
- Concept Reviews

Product Specifications Checklist

- Product Performance
- Accuracy
- Precision
- Efficiency
- User Functionality
- Environmental Limits
- Regulatory Requirements
- ISO 9001
- ISO 13485
- CE Marking
- FCC
- UL, CSA
- ATEX
- Intrinsic Safety
- 21 CFR 11
- 21 CFR 820.....
- Weight
- Packaging Specifications
- Labeling
- Serialization, Lot Control, Device History File Requirements

Prototype Capabilities

- CAD System Modeling
- Solidworks
- PADS PCB design package
- SLA Models for mechanical mock-up
- Prototype Printed Circuit Boards
- Embedded Software
- 8051 microcontroller systems
- 68000, HC11 processor systems
- MSP430 embedded systems
- MSC1210 microcontroller systems
- Assembly Language
- C
- RTOS
- 21 CFR 11

Other Software and operating systems

- C, C++, Pascal
- MS-DOS
- Windows
- Linux

Manufacturing Considerations

- Quality System
- ISO 9001
- ISO 13485
- 21 CFR 820
- Product Performance Requirements
- Process Design and Process Validation
- Test Requirements
- Automated Functional Testing
- Calibration
- Test Records and Traceability
- In accordance with UL, CSA and other Safety Testing
- Serialization, Lot Control, Device History File Requirements

Manufacturing Facility and Resources

Product Resources is located in a newly-remodeled, 33,000-square-foot facility in Newburyport, Massachusetts.

Our manufacturing facility - which can be easily expanded as needed – is equipped with a large, modern batch assembly area as well as dedicated customer-specific work cells designed for continuous, higher-volume manufacturing.

Other features include:

- 21,000 square foot Manufacturing Plant
- 540 cubic foot Thermal Burn-In Room
- High Power Test Stands
- Automated Assembly Tools
- High Volume Manufacturing Cells
- Complete ESD Protection
- Fully Equipped Test Facilities
- Complete Service/Repair Department
- Automated Wire Prep Machinery
- ERP business process software platform with Manufacturing application

Production Process and Capacity

- Work cell/desktop manufacturing
- Low-to-mid volume production
- Dedicated customer-specific assembly areas

Regulatory Experience

- CE Marking
- Intrinsic Safety
- ATEX
- MSHA
- UL
- FM

Quality Accreditation

- ISO 9001-approved for engineering design, development, manufacturing and service
- ISO 13485-approved for medical device manufacturing and service. Both approvals are certified by TUV.
- ISO/IEC 80079-34 approved for engineering design, manufacturing and service, audited by TRaC Global, for equipment and instrumentation used in explosive atmospheres.

Schedule Availability

Please inquire

References

Available upon request

Sample Projects

Life Sciences/Biotechnology

Automated Protein Digestion instrumentation

We designed and built an automated system for in-gel or in-solution digestion of proteins prior to mass spec, MALDI, LC/MS analysis.

Precision mechanical assemblies, electrical and electronic controls, robotics and liquid handling technologies are the key attributes to this instrument.

Spectroscopy

We developed instrumentation for high through-sample measurement for microtiter plates or slides using Raman spectroscopy.

System configurations consist of automated precision mechanical and electrical controls, robotics, data storage, and laser technology.

Array Printing

We designed and developed Instrumentation to accomplish the task of printing live cell arrays, biofabrication/bioprinting and tissue engineering.

This task is performed utilizing automated electrical and mechanical controls, liquid handling and precision robotics.

Protein Electrophoresis

We built instrumentation capable of high resolution fractionation of varied sample types which are then integrated with mass spectrometry or other means for data analysis.

The instrument incorporates mechanical bath agitation electrical/electronic bath control, custom power supplies in a bench top format.

Cryogenic Sample Preparation

We developed large format and bench top instrumentation to support the biobank industry. Systems provide multiple frozen sample aliquots from a single frozen biological sample.

These systems span varied technologies from cryogenic thermal management, multi axis robotics, custom precision tooling, precision mechanical and electronic assemblies, power management, custom software and imbedded systems.

Medical Devices

Iontophoresis drug delivery to the eye:

We designed and manufactured a handheld controller utilizing low-level electrical current for a non-invasive method of delivering a specified amount of drug to the eye.

Electronic control systems for cancer treatment:

We manufacture various electronic control systems in support of a medical system delivering proton therapy for cancer treatment.

Inquiries

We invite you to contact us to:

- ✓ Request more information
- ✓ Speak to our team
- ✓ Schedule an onsite visit to our facility in Newburyport, Massachusetts.

Please contact John Erickson at 978 225 4994 or jerickson@prodres.com