

Founded in 1962, Sigma Design Company offers professional design engineering and contract manufacturing services to companies from a wide-range of industries. Examples of some recent projects include work for the aerospace, biotechnology, food processing, environmental, general industrial machinery, industrial filtration, marine, medical devices, and recreation industries.*

Sigma Design Project Management

- Single Source Responsibility
 - Design Engineering, Procurement, Manufacturing, QA
- Develop Projects Faster
- GOAL: On Time – On Budget

Our experience shows that the most efficient way to ensure you get the best product at the best manufactured cost is through a multi-stage approach. Each stage has a deliverable, which gives you better control of the project.

DESIGN / BUILD MILESTONES

The time estimates shown are based on previous project experiences.

Preliminary Design Review: 1 Week

Refinement of Design Objectives: 3 – 6 Weeks

- Engineering Review
- Concept Development
- Specification Development
- Preliminary Costs and Schedule
- 3D Assemblies and Layouts for Approval

Develop the Detail Design Package: 3 – 7 Weeks

- Engineering Analysis (CFD, FEA, ASME, etc.)
- Detail Construction Drawings
- Bill of Materials
- Assembly Drawings and Instructions

Procurement: Typically 3 – 7 Weeks

- Vendor Review and Selection
- PO and Inventory Management

Manufacturing: Typically 3 – 4 Weeks

- Production Control and Problem Solving
- QA / QC
- Assembly

Final Testing = Proof of Design

- In-house or 3rd Party (UL, CSA, NSF)

*Licensed Professional Engineers (PE) in New York and New Jersey

Turning Smart Ideas Into Product Solutions

Single source / Custom Solutions


SIGMA
DESIGN
Professional Engineers & Designers

43 Commerce Street
Springfield, NJ 07081

design/ build

“Sigma proved to be a professional organization, from the initial project plan and estimate, to completed drawings.”

Chief Engineer – Electronics Manufacturer

“Sigma Design Company, L.L.C. has in depth knowledge of industry... They are current in the design tools available for analysis and have the personnel that understands the design tool’s capabilities. This total package makes Sigma Design Company, L.L.C. a valuable resource.”

Senior Design Engineer – Filtration Manufacturer

“Our customer was impressed with the trolley assembly... Thanks again to you and the staff, I’ll be sure to keep you folks in mind for the next project... Nice Job!”

Senior Systems Engineer – Instrument Manufacturer


SIGMA
DESIGN

Professional Engineers & Designers

www.sigmadesign.net

show & tell

US Navy Mobile Filtration Laboratory

To support the development of improved US Navy shipboard desalination systems, several filtration devices were selected for evaluation and test. In order to complete the evaluation, a portable filtration test system was required.



The test system supplies seawater from 40 GPM to 260 GPM at 150 PSI. It includes: contaminate injection system, contaminate mixing tank, seawater supply pump, filtrate headers with baseline filters for comparison, backwash/underflow headers, backwash/underflow clean-up filters, all piping, sample lines, valves, hoses, couplings, filtration component foundations, flow meters, and thermometers.



The system operates unmanned and contains automated safety shutdown controls. The contaminate injection system injects suspended solids from 3 ppm to 225 ppm, consisting of ISO test dust, silty-clay dirt, plankton, and brine shrimp.

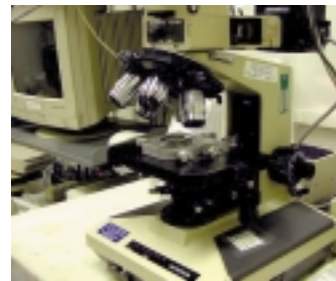
Phase I of the testing



evaluated and ranked the filtration components in a controlled laboratory environment. Phase II was an endurance-type test performed on filtration components at selected coastal sites. The test results will provide essential data for the Navy program.

Laboratory Inspection Tool

A manufacturer of specialty lubricants needed a tool to expedite the inspection of roller bearings after fatigue tests. We designed and manufactured a device that allowed microscopic inspection with only one set-up.



Laboratory Test Machine

A tribology laboratory required a specialty test machine to improve their testing program. A low-speed, high-load spindle design was needed. Sigma Design developed a novel design approach allowing axial loads of 1000 Kg at speeds as low as 1000 rpm. The new test machine provides load testing at consistently low vibration levels. Research Scientists use the data for developing new products that help extend the life cycle of the components tested.



Specialty Machine

A manufacturer of large aircraft hanger doors had a special installation challenge. Design a mechanical drive system to open 20-foot high aircraft hangar doors. While this is normally not a significant design challenge, these doors must reliably open against 60 mph winds on a wet and sloping concrete entrance. Sigma Design calculated the loads and forces, and delivered a level compensating drive system that met these demanding Air Force specification requirements.



MSI Ballast Water Treatment Research Project

Working with the University of Maryland's Center for Environmental Sciences, Sigma Design developed a new (patent pending) centrifugal separator and ultraviolet disinfection system.

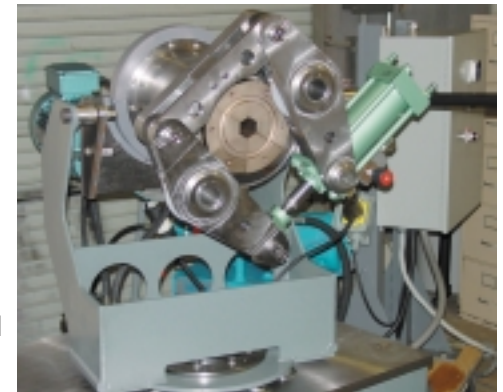


Clients: Maryland Port Administration and (NOAA) National Ocean and Atmospheric Administration.

This system was developed, manufactured, and installed aboard the M/V CAPE MAY at South Locust Point Marine Terminal McComas Street, Baltimore, Maryland. The separator removes invasive aquatic species from ships' ballast water, therefore preventing the introduction of destructive organisms into US waters.

Prototype Production Machine

The world leader in pipe coupling technology needed a special machine to prepare pipe sizes 3/4 inch to 6 inch for one of their international customers. This production machine allows installation of nonwelded industrial piping systems by cold forming the pipe ends to accept bolted couplings.



Electronic Instrumentation System

A manufacturer of industrial stack gas monitoring instruments needed a rugged and reliable way to mount their electronics package to a steel mill's exhaust stack. Sigma designed and fabricated a specialized trolley suited for high temperatures, which allows for easy installation and convenient access for future maintenance.

