

LACO TECHNOLOGIES



**CREATING VACUUM AND
LEAK TESTING SOLUTIONS**

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LACO Technologies, Inc. is a leading manufacturer of vacuum and leak testing systems. Driven by innovation, service, and quality we strive to be the best provider of standard and custom solutions.



VACUUM TECHNOLOGY

LACO designs and manufactures standard and custom vacuum chambers and systems. Our team is dedicated to providing innovative vacuum systems to achieve your goals. We design, build, and test each vacuum system to your specific testing or process application.

LEAK TESTING

We are focused on creating cutting-edge and reliable production leak testing systems to provide the best fit for your objectives. We utilize several leak testing methods including Helium Tracer Gas, Air Pressure/Vacuum Decay, Non-Helium Tracer Gas, and LACO's patented HATS™ leak test methods.



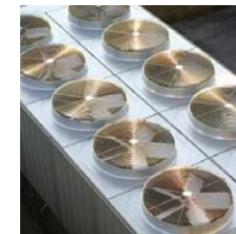
CALIBRATED LEAKS

LACO CalMaster™ leak standards cover a broad range of configurations, including leak rates down to 10^{-10} atmcc/sec, a choice of several gases, and a multitude of sizes and designs. Our propriety Micro-Tube Capillary leak element has undergone rigorous testing and validation to ensure performance in the toughest manufacturing environments.



APPLICATIONS

- Environmental Testing
- Leak Testing
- Package Testing
- Physics Research
- Product Testing
- Space Simulation
- Vacuum Baking
- Vacuum Brazing & Joining
- Vacuum Degassing
- Vacuum Drying
- Vacuum Potting



LACO delivers the most advanced space simulation and testing solutions; utilizing both vacuum technology and thermal control to replicate extreme pressure and temperature environments.

WHAT EXPERIENCE

DO YOU WANT?

ATTENTIVE AND RESPONSIVE SALES TEAM

We will be with you from the first phone call through completion of your project.

EFFECTIVE AND INNOVATIVE SOLUTIONS

Our application engineers seek to understand your application to recommend the right equipment to meet your objectives.

KNOWLEDGEABLE ENGINEERS

Your dedicated LACO design engineer will be with you throughout design, drawing approval, and production of your product.

DEDICATED PRODUCTION TEAM

We are focused on meeting our delivery commitments so you get your product on time.

COMMITTED TO QUALITY

We supply test and inspection certificates for each product so you can have peace of mind that your product will work.

INSTALLATION AND STARTUP SUPPORT

Our service and support team provides training, on-site support and technical assistance to ensure your product gets up and running quickly.

CONTINUED SERVICE

We will be here for the lifetime of your products and systems.

We are committed to creating an experience individual to your needs. We take pride in being responsive and providing personal service and support unique to the industry.



WHAT EXPERTISE

DO YOU NEED?

INDUSTRY EXPERTS WORKING FOR YOU

Our team of application engineers know your industry and its many applications.

PROVEN AND SUCCESSFUL DESIGNS

LACO has over 35 years experience providing vacuum and leak testing solutions to diverse markets.

CONCEPT CONFIDENCE

Our engineering lab allows us to test and analyze alternative processes and methods to define the optimal choice for your needs.

STATE-OF-THE-ART DESIGN TOOLS

We utilize the latest CAD and solid modeling software to make sure your product meets performance expectation.

LATEST SYSTEMS AND PROCESSES

Our advanced ERP system assures your project is planned, scheduled, and manufactured on time.

CERTIFIED WELDERS AND SKILLED TECHNICIANS

We have specialized technicians to provide the highest quality craftsmanship.

RIGOROUS QUALITY SYSTEM

Our detail-oriented quality staff influences all parts of LACO's projects.

Our team of sales and engineering specialists are experts in the field, providing solutions for diverse customer applications. Our wealth of application expertise allows us to provide the best solution to meet your goals.

"I was comfortable with LACO from the first time I walked in the door. Friendly people that took the time to find out what I really needed and then helped me design and create a system for my needs. Servicing and educating the customer is what LACO is truly all about. I got to the real answer in less time. LACO is a very atypical type organization where they will take the time to help." —Kent

EXAMPLES OF OUR WORK

Leak Testing Single Use Bioprocess Bags

CHALLENGE

Our customer needed a leak test method that would be more sensitive and faster than other technologies used in the industry. The traditional pressure decay method was not sensitive enough to provide the desired results, particularly with larger volume bags. Helium leak testing could provide the sensitivity required, but it posed challenges for products made from plastic film due to permeation of helium. They also needed to correlate leak rates to bag defect sizes, then correlate the defect sizes to leak criteria for the bags.



SOLUTION

Before design work began, we provided initial proof of concept testing of the customer's product at no cost. We utilized our proprietary helium leak test method, which accounts for helium permeation. The production leak test system was designed with flexibility to test multiple size bags with multiple configurations, meeting both cycle time and leak rate sensitivity requirements. In addition, using our expertise in leak standard design and calibration, we were able to assist the customer in correlation studies that helped them correlate defect sizes to unacceptable bag performance.

SUMMARY

- No cost proof of concept testing of customers product.
- Applied LACO's proprietary test methods to solve a challenging leak testing application involving helium permeation.
- Achieved both leak rate sensitivity and production rate requirements.
- Assisted the customer in leak rate correlation studies.

Leak Testing Automobile Gas Filler Lines

CHALLENGE

Our customer faced tightening emissions requirements, which demanded transitioning from their traditional water dunk test to a method capable of detecting smaller leaks. The first leak test systems they purchased from another supplier were very expensive, difficult to maintain, required a large amount of floor space, and were not portable.



SOLUTION

To overcome these challenges, we developed a unique helium accumulation test method that did not require the use of large vacuum chambers or large and expensive vacuum pumps. Our systems could therefore be portable and encompass a smaller footprint. To save cost, the system was designed to share one helium leak detector between two workstations without sacrificing cycle time and tooling plates were designed to be modular to accommodate future part configurations.

SUMMARY

- Customer's needs and challenges were reviewed and evaluated to develop a new solution.
- Lower equipment cost, increased flexibility, and portability.

Vacuum Drying Medical Devices

CHALLENGE

Our customer was under pressure to develop a new vacuum drying process for a medical device as well as outline requirements for production scale drying equipment. Compounding the challenge, the customer had a strict set of requirements including critical time deadlines and stringent temperature parameters.

SOLUTION

With our help and expertise, the customer was able to define equipment specifications while we designed and built two pre-production vacuum drying ovens. The systems featured chamber heating, product shelf heating and cooling, hot inert gas purging, control of process vacuum levels and recipe-based configurable software. Using these prototype vacuum ovens, we conducted drying process development in-house. Based on this development, we designed and built two production scale vacuum drying ovens.

SUMMARY

- Developed systems with high degree of flexibility under a tight schedule.
- Assisted with process development.
- Prototype equipment technology capable of transitioning to production scale systems.



ABOUT **LACO TECHNOLOGIES**

Established in 1975, LACO has a long history of serving customers across the United States and internationally. We work with diverse customer applications and are dedicated to creating the right solution to help our customers achieve their goals.

MARKETS SERVED

Aerospace
Automotive & Transportation
Calibration & Metrology
Electronic & Semiconductor
Energy – Generation, Storage, Transmission
Food & Beverage
Gas & Chemical
Government & Military
Manufacturing
Medical & Pharmaceutical
Packaging
Refrigeration & A/C
Research & Development



RANGE OF PRODUCTS AND SERVICES

Turn-key vacuum systems
Turn-key production leak test systems
Vacuum chambers
Leak detection instruments
Calibrated leak standards
Leak detection accessories
Leak detector repair
Leak standard and vacuum gauge calibration services
Leak testing services
Leak detector rentals

FACILITY CAPABILITIES

Welding, machining, and fabrication
System assembly, integration, and testing
Accredited calibration laboratory
Repair and service department
Engineering test lab

IN-HOUSE ENGINEERING

Mechanical, electrical, and controls engineering
3D CAD and FEA mechanical modeling
Vacuum system design, modeling, and analysis