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Developing Advanced Solutions Today

Welcome to ASC Process Systems. We are the world’s leading manufacturer of autoclaves and ovens for the aerospace, composites, nuclear, and glass industries. In business since 1988, we are the recognized leader in autoclave and control system technology.

Most major aerospace companies standardize on our products, including CPC (Composite Processing Control) our flagship software and control system and the Econoclave®, an aerospace-grade autoclave designed to meet the needs of high-performance at low operating costs.

This brochure provides a brief overview of our products, services, capabilities, and the industries we serve. To find out more about us, we hope you will browse and enjoy our web-site, which includes detailed information about our products, 3D-rotators, a history slide-show, and a full featured knowledge-base engine as well as on-line request forms.
What’s an Econoclave®?

The Econoclave® is the world’s most popular composite curing autoclave. It brings together unique ASC design, quality materials, advanced capabilities, and streamlined manufacturing to provide an affordable, energy saving, aerospace-grade autoclave for Tier I, II, and III manufacturers.

The Econoclave® is state-of-the-art in autoclave technology and provides more advanced features and higher performance than any other autoclave product on the market. With its advanced engineered design and world’s leading CPC control system, no other product can match its capabilities and performance.

The Econoclave® is not only affordable to purchase, but its space-saving design saves you money in electricity, compressed air, and nitrogen usage each time you process your part. When compared to conventional autoclaves, a large production Econoclave® can save tens of thousands of dollars each year in operational costs.

Standard Models of the Econoclave are available from 1 ft to 15 ft in diameter and 2 ft to 40 ft in length. Customization is almost limitless. Visit our website for a full catalogue of models and options @ aschome.com or call us about your specific needs.
ASC Built the **Largest Autoclave in the world**

We are the proud manufacturer of this autoclave, which is an integral part in the advancement of aviation materials and was specifically designed and built for curing composite fuselage sections for the Boeing 787 Dreamliner. With a working area of 30 ft X 75 ft, and a volume of over 82,000 ft³, it is the largest autoclave in the world. Fully-loaded, it weighs in at over 1,000,000 lbs. and was fabricated on-site in Charleston, SC.

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**ASC Builds Autoclaves for Many Applications:**
- Composites
- Glass Laminating
- Vulcanizing
- Dewaxing
- Nuclear Sampling & Transfer
- AAC Concrete
Composite Ovens

Although there are hundreds of companies that build ovens, there’s only one company that can design and deliver a custom composite curing oven with the features, capabilities, and reliability that the aerospace composite industry demands.

An ASC composite oven is built differently than most ovens in the market. Rather than follow the industry and build "panel ovens", we have designed our ovens for high durability and long life.

In a conventional panel oven, the oven’s walls and ceilings are made with interlocking 22" (550mm) wide 20ga sheet-metal panels. While this oven configuration is cost-effective, it is certainly not designed for long-term reliability and energy conservation because it is constantly drawing cold air in, requiring the oven to heat excess air. In a typical ASC oven, each wall is made as a structural element with heavy-duty steel tubing, heavy-wall 14GA plate, and very few seams. The result is an oven that reduces leakage by 95% when compared to a panel oven.

ASC Composite Oven

**BENEFITS:**

- CPC Control System
- Structurally Sound
- CFD Analysis
- High flow = quicker cycles
- Large oven specialty
- Aerospace-grade vacuum systems
- Adherence to specification
- Designed to meet global demand

We can help you transition from autoclave to oven

Our ovens meet all world codes and standards

Our ovens come standard with ASC’s flagship CPC control system

www.aschome.com
Composite Processing Control (CPC)

What is CPC?
CPC (Composite Processing Control) is ASC’s flagship software and control system designed specifically for control of composite processes in autoclaves, ovens, presses, formers, and bond tools. Since its creation, CPC has been at the forefront of composite technology.

The CPC advantage
With over 1500 users, CPC is by far the most preferred and feature-rich control system on the market. World-wide, many of the major aerospace composite manufacturing companies choose CPC as their only control solution for autoclaves and other process equipment. CPC was first launched in 1988 and since then has been updated yearly to address the ever-changing composite requirements. It is a bullet-proof application with incredible reliability and power.

CPC Control Systems

BENEFITS:
- Ease of Use
- Excellent Reliability
- Multi-Equipment Control
- System Redundancy
- Advanced Cure Control
- Data Acquisition & Archival
- Comprehensive Reporting
- Automatic Quality Analysis
- Remote Operations & Viewing
- Multi-Media Features
- Email & SMS Texting
- MRP & MES Interface
- Expandability
- Configurable Screens
- Frequent Updates
- Tons of Special Features & Capabilities
Capabilities & Facilities

Our capabilities and facilities are unsurpassed within our peer group and include our 100,000 ft² (9300 m²) headquarters near Los Angeles, California, which is home to many of ASC’s engineering, sales, and manufacturing activities as well as our staff of over 250 people.

ASC Owned Equipment Includes:

- Two 40 ton overhead bridge cranes with tandem capacity to 80 ton
- Two 20 ton overhead bridge cranes with tandem capacity to 40 ton
- Six 10 ton overhead bridge cranes
- Five 5 ton overhead bridge cranes
- 300 CFM compressed air system for pressure testing of autoclaves
- 500 PSIG compression system for high-pressure testing of autoclaves
- Nitrogen generation system
- 12 ft. weld manipulators
- 12 ft. rotating weld positioners
- 4 ft. rotating weld positioners
- Five sets, tank turning rolls, 20 ton
- Two sets, tank turning rolls, 40 ton
- Four sets, tank turning rolls, 100 ton
- Four sets, tank turning rolls, 135 ton
- Thirty MIG welding machines
- Fifteen 300A stick welding machines
- Fifteen 300A TIG welding machines
- Forklifts, boom lifts, and much more
Design & Project Engineering
ASC designs 100% of our equipment using in-house engineers.

Pressure Vessel Fabrication
We build all of our own autoclave pressure vessels, whether it's an in-house fabrication or field fabrication effort.

Mechanical Fabrication
ASC builds all mechanical systems for our autoclaves, ovens, and process equipment.

Electrical Fabrication
ASC is a full-service design & build panel-shop, with certification to UL 508, CE, CSA, and other codes.

Quality and Inspections
ASC's quality system is ISO certified and encompasses everything we do.

Equipment
Overhead bridge cranes, compressed air systems, nitrogen generation systems, welding machines, and tank turning rolls.

ASC Process Systems Ltd. - UK
Our UK division, ASC Process Systems, Ltd., is located in a 10,000 sq.ft. facility in Poole, England.

ASC Process Systems Ltd. - Beijing Ltd.
Our China division, ASC Process Systems - Beijing, Ltd., has offices in The Exchange building in downtown Beijing.
ASC Services
With over 400 years of collective company-wide experience, there is practically nothing we haven’t seen, so chances are we can fix it.

If you’re having control or equipment issues with your existing autoclave or oven, ASC can provide a trouble-shooting expert to travel to your site and determine the root-cause of the problem. If the issue is easily fixable, then our technician will affect a repair immediately. We are experts at controls, electrical and power systems, and mechanical systems.

Custom Concepts & Equipment
If you have a custom concept that you need engineered, we have the resources available to handle it. ASC can also develop new machines from scratch. Just let us know what you want it to do, and ASC’s design engineers can make your idea a reality.

Specification Development
We are equipment experts and can be tapped to help develop technical procurement specifications on autoclaves, ovens, and other process equipment.

Designed to Meet Global Demand
Along with U.S. standards such as ASME and UL, ASC designs and builds Econoclaves® and Ovens to meet all world codes and standards, including CE / PED for the European Union, China Pressure Vessel authority, Japanese Industrial Standards, and many others.

Visit Us Online www.aschome.com
Trouble-shooting & Repair
We are experts at diagnosing and repairing autoclaves, ovens, and control systems.

Calibration
ASC uses NIST-traceable standards to calibrate CPC systems on our customer’s autoclaves and ovens.

Preventive Maintenance
ASC has a full-time service staff that can provide scheduled, preventive maintenance on your autoclaves and ovens.

Design Engineering
ASC has more than 30 design engineers in electrical, mechanical, controls, and software development.

CFD Analysis
ASC has years of experience in CFD (Computational Fluid Dynamics) analysis to support our autoclaves and ovens.

Consulting
Setting up a new production facility and require help on autoclave and equipment specifications? ASC can help!
ASC Certifications

In order to assure delivery of Best-In-Class products and services, ASC maintains a wide range of qualifications and certifications.

Worldwide Representation

ASC has been delivering equipment and control systems to its worldwide customer base for well over two decades. Our main manufacturing plant is headquartered near Los Angeles, California, but with subsidiaries in the UK and China and an international network of competent and reliable representatives and suppliers, ASC’s capabilities are truly global!

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ASME Pressure Vessel Code
ASC has a U-stamp, which certifies us to design and build pressure vessels to ASME code.

National Board Authorized
ASC is authorized to apply the NB mark to our pressure vessels and register our pressure vessels with the National Board.

National Board R-Stamp
ASC is authorized to alter ASME and National Board registered pressure vessels.

China Pressure Vessel Code
ASC is one of the few pressure vessel companies in the US certified to build pressure vessels for export to the Peoples Republic of China.

ISO 9001:2008
ASC’s quality management system is certified by SAI Global to meet ISO 9001:2008 standards.

UL Certified
ASC is UL Certified for Industrial Control Panel manufacturing.
Aerospace Industry

Aerospace represents ASC’s largest customer base. We have been supporting the aerospace composites industry with equipment and control systems for more than 20 years.

Composites have been used by aircraft manufacturers for decades, first in military applications (B2 bomber, F117 fighter, F18, etc.) and now with most commercial aircraft. Our autoclaves, ovens, and the CPC (Composite Processing Control) control systems are used to cure and manufacture billions of dollars of product each year.

In the 80s and 90s, ASC was a key player in providing equipment and control systems for many military programs, including the B2 bomber, F117 fighter, F18E/F, and dozens of others.

Aerospace manufacturers worldwide recognize ASC as the best and only company to deliver the highly reliable equipment and control systems required for their composite curing applications.

Today ASC supplies equipment and controls to more than 500 different Tier I, II, and III suppliers for hundreds of different aircraft programs.

Our products have been instrumental in the successful development and manufacturer of the following aircraft programs:

**Space**
- NASA - International Space Station
- NASA - Space Shuttle
- NASA - X37 Space Plane
- NASA Viking 1, Viking 2
- SpaceX - Falcon

**Commercial**
- Boeing 717, 737, 747, 757, 767, 777, 787
- Airbus A320, A330, A340, A350 XWB, A380
- MD-11
- MD-80
- Hawker 200, 750
- Beechcraft Premier
- Beechcraft King Air
- Beechcraft Baron
- Beechcraft Bonanza
- Cessna Citation Mustang, CJ1+, CJ2+, CJ3, CJ4, Encore+, XLS+, Sovereign

**Military**
- Northrop B2 bomber
- Lockheed F117 fighter
- Lockheed F16 fighter
- Boeing F-18E/F fighter
- Lockheed F22 Fighter
- Lockheed F35 Joint Strike Fighter
- Boeing C-130 Hercules
- Boeing C-17 Globemaster
- Airbus A400M
- Bell/Boeing V22 tilt-rotor helicopter
- Boeing CH47 Chinook helicopter
- Boeing AH-64 Apache helicopter
- Sikorsky Blackhawk helicopter
Glass Industry

ASC’s Econoclave GLS models and CPC control systems are used by the glass industry to bond and cure laminated glass for architectural, automotive, and ballistic applications.

Laminated glass is a type of safety glass that holds together when shattered. In the event of breaking, it is held in place by an interlayer, typically of polyvinyl butyral (PVB), between its two or more layers of glass. The interlayer keeps the layers of glass bonded even when broken, and its high strength prevents the glass from breaking up into large sharp pieces. This produces a characteristic "spider web" cracking pattern when the impact is not enough to completely pierce the glass.

Nuclear Industry

The nuclear fuels industry uses autoclaves to prevent the accidental emission of gaseous UF6 (uranium hexafluoride) during feeding, delivery, and sampling operations.

ASC is the only company in the U.S. qualified to build UF6 sampling and transfer autoclaves and have received multiple orders for nuclear autoclaves in the past 5 years. These autoclaves have to meet the stringent NRC (Nuclear Regulatory Commission) requirements. We are ASME NQA-1 qualified and our quality system has been certified by multiple nuclear fuel producers.

For more information regarding uranium enrichment, visit: http://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html

Ballistics Industry

Ballistic armor is fabricated from a mix of composite materials, steel, silica, and ceramics. In order to increase the quality of the final product, most armor must be bonded and cured in autoclaves.

As the use of IEDs (improvised explosive device) increased during the recent conflicts in Iraq and Afghanistan, the U.S. and international military units saw the immediate need to improve both the body armor given to each soldier and the armor assembled into personnel vehicles. The goal was increase survivability, and the result was a focused plan to develop and manufacture more and better armor.

Concrete Industry

Autoclaved aerated concrete (AAC) is a highly thermally insulated concrete-based material used for both internal and external construction. AAC has excellent thermal insulating qualities and is also easily installed. Another benefit is that it can be routed, sanded, and cut to size on-site using standard carbon steel tools.

Autoclaves are used to cure AAC using live steam. These autoclaves are usually very long in order to accommodate rail-car loading techniques. ASC designs and manufacturers AAC autoclaves for a many of leading AAC producers.
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