Precision-Engineered Solutions, from Concept to Production

Cast Aluminum Solutions designs and manufactures products that help save lives, connect the world, protect our country, and cook the world’s most popular foods. CAS products are used across a broad range of heating, cooling and non-thermal applications.

CAS is an ISO-9001 Certified company, serving OEMs and end-users worldwide. Our team of engineers and technicians works closely with customers to develop practical solutions to complex process challenges. Many customers view CAS as an extension of their internal design team. So get to know CAS, and the precision-engineered solutions we deliver...from concept to production.

Markets Served
CAS serves these markets with a wide variety of precisely manufactured components
- Semiconductor
- Fluid Handling
- Lab & Medical Device
- Aerospace & Defense
- Industrial Gas & Cryogenics
- Petroleum & Chemical Sectors
- Pharmaceutical Manufacturing
- Commercial Foodservice Equipment

CAST-X and PUR-X Circulation Heaters
This versatile family of heaters serves many industries, applications and processes
- NEMA and ATEX-Certified Enclosures
- Heats Liquids and Gases
- Compact Design & Powerful Output
- CAST-X is available in multiple sizes, from .5 to 60 kW
- PUR-X features a removable Teflon® flow tube, for high-purity processes
- CAST-X HT is cast in bronze, for high temp applications (to 1112°F/600°C)

Innovation in Engineering is at the Core of Everything We Do

The CAS Engineering Team works hand-in-hand with customers to develop innovative solutions to complex challenges. This semiconductor industry platen delivers both heating and cooling. The interior features precisely-positioned heating elements, delivering uniform heat, plus integrated cooling tubes, along with thermocouples and custom control devices. CAS Engineers employed FEA (Finite Element Analysis) thermal modeling to test and prove design details, which shortened the development cycle and brought it to market faster.

Precision-machined pedestal heaters for the semiconductor industry

CAST-X Circulation Heaters, known for safely heating flammable liquids & gases

Commercial grills and custom steam generators

Heated components for very specialized applications

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CAST-X HT delivers extreme heat and is cast in bronze

PUR-X heaters feature replaceable flow tubes

CAST-X HT delivers extreme heat and is cast in bronze

This platen delivers both heating and cooling functions.

What CAS Brings to Your Project:
- **Engineering Services:** With an emphasis on solving complex challenges, tools include Finite Element Analysis (FEA) to develop & test thermal simulations and structural models, Solid State 3-D CAD Imaging, plus a full compliment of lab and machine-based applications.
- **Product Testing:** CAS has a large in-house R & D Lab, featuring Vacuum Chamber Testing, X-Ray and Ultrasound Technology, Infra-Red Thermal Imaging, Helium Leak Testing, and Life-Cycle Testing: every aspect of product performance can be analyzed.
- **Prototyping & New Product Development (NPD):** Our NPD Team and Prototype Machining Cell offers a full array of development services; this includes documentation of ‘best manufacturing practices’, for a seamless transition to full-scale production.
- **Full-Scale Production & Assembly:** CAS has built a state-of-the-art manufacturing facility, complete with pressurized casting systems, a large clean room, several high-capacity multi-axis CNC machines, managed by an efficient, technically-oriented team.
- **Support:** Dedicated in-house Customer Service agents use industry-standard ERP and SmartSheet tools to ensure inventories are maintained, components are tracked, services are thoroughly inspected, and every single delivery date is met.
FEA (Finite Element Analysis) tools perform complex thermal and structural analyses, evaluating design performance without the need for physical prototypes, saving time & money.

3-D CAD: Advancing beyond standard CAD, CAS eliminates re-interpolation of design specs by linking CAD files to FEA models, CNC machine setups, and CMM inspection parameters.

Infra-Red Thermal Imaging is a critical R&D tool at CAS. Used to test temperature uniformity and validate thermal models, IR is utilized in both vacuum-chamber and ambient settings.

X-Ray & Ultrasound Technology delivers non-destructive evaluation of casting porosity and verification of component positioning.

Vacuum Chamber Testing allows CAS to test our products in the same vacuum environments our customers use.

Accelerated Life Cycle Testing ensures CAS products are ready for real-world challenges: extensive data logging records testing at non-standard voltages, surged ramp rates, and high temps.


Lean Manufacturing and Continuous Improvement initiatives at CAS work to constantly push toward more efficient processes and more advanced techniques in design, assembly and delivery.

ASQ (American Society for Quality) Six Sigma Black Belt leaders are on-staff at CAS, for the ultimate in quality and process oversight.

SmartSheet Online Order Tracking: Our advanced ERP System gives customers real-time order monitoring & tracking via secure portals; so customers always know the exact status of orders.

Bar Code Tracking of all components, services and finished parts means serialized control over all processes and inventory.

Certified Components: UL, CE, CSA NEMA and ATEX-certified heating elements, electrical enclosures and wiring components help deliver on the promises of safety and performance.
We’re Made Stronger By Our Affiliations with These Organizations:

CAS is an Award Winning Company

The CAS Team is Ready to Get to Work on Your Project

CAS is a technology-driven company focused on offering products and services that deliver on our promise of value and quality. We serve OEMs and end-users globally, with Sales Engineers and Distributors throughout North & South America, Europe and Asia. The CAS Team looks forward to working with you. Please contact the main CAS office or one of our representatives, listed below.