

>VACUUM

FOOD PROCESSING
INDUSTRIAL
PHARMACEUTICAL

AndersonDahlenInc.
Applied Vacuum Division



WE MANUFACTURE CUSTOM
CHAMBERS, INTEGRATED
EQUIPMENT, FLANGES
AND COMPONENTS.

Advancing
the Science
of Vacuum
Technology

Getting it exactly right in custom vacuum product fabrication.

With 30+ years of experience manufacturing custom, ultra-high vacuum products, Applied Vacuum offers the tools, technology and expertise required to meet almost any customer specification. Our design and build capabilities range from chambers, assemblies, flanges and components to custom integrated equipment.

Since 1942, Anderson Dahlen, our parent company, has partnered with Fortune 500 and multinational companies to provide custom metal fabrication and equipment integration services from concept to completion. Our meticulous project support gives customers the confidence to let us manage their projects from start to finish.

Solutions for Advanced Research and Manufacturing

Surface Analysis
and Mass
Spectrometry

Thin-Film
Deposition and
Semiconductor

Thermal Test
and Space
Simulation

Nuclear and
Particle Physics
Research

Vacuum
Annealing
and Sintering

Industrial to XHV and all points in between.

Applied Vacuum designs and fabricates custom components, chambers and integrated assemblies for applications ranging from rough vacuum for industrial processes to extreme-high vacuum (XHV) for scientific study. Furthermore, we have the capacity and capabilities to manage a wide array of production modes for our customers. Our production requirements routinely range from design and build projects to high-volume contract manufacturing.

Vacuum Ranges
of 1×10^{-3} Torr
to 1×10^{-13} Torr

Up to 20'
Length and
14' Diameter

Integrated
Water
Cooling

ASME/PED Pressure
and Cryogenic
Rated Designs

Stainless Steel,
Aluminum, Titanium
and Specialty Alloys

We can design it. We can build it.

Design and Engineering Support

Applied Vacuum Engineers and Estimators often work from as little as a concept sketch or statement of work to develop detailed proposals. We regularly collaborate with customers to produce an optimized fabrication plan that is tailored to meet budget and schedule constraints. Furthermore, our Engineers can assist with design considerations to meet safety and mechanical concerns, including ratings for ASME/PED pressure and cryogenic requirements.

Assembly, Integration and Test

We have decades of experience producing UHV/XHV rated weldments and integrated assemblies. Our Quality Assurance (QA) team utilizes ISO-certified cleaning and inspection programs to guarantee our products are ready for installation upon delivery. All welded assemblies are thoroughly helium leak tested, and Certified Welding Inspectors® examine all critical weld joints. Additionally, our QA team can provide a myriad of value-added services prior to shipment including: assembly, bake out, RGA scan, dry nitrogen backfill and coordinate measuring (CMM) inspection reports.

Design

Engineer

Fabricate

Assemble

Test

Support

ISO 9001: 2015 Certified, Nuclear NOA-1, ASME, AWS and PED Certified.



Custom vacuum equipment.

Integrated Solutions

1

■ Basic

Chamber, frame, pumps and plumbing with solenoid actuated valve options, assembled and ready for use.

2

■ Intermediate

All basic elements plus controls and pressure gauging. Options include manual switch panels or touch panel HMI systems.

3

■ Complex

A fully integrated system including pumps, power supplies, sources, instrumentation and controls with PC-based interface for recipe-driven process control, data logging and reporting. Options include heaters, chillers, deposition sources and in-situ measurement.



Quality components for critical applications.

Custom Flanges and Components

Applied Vacuum can add custom features to standard flanges or fabricate turnkey items from 300 series Stainless Steels (including 316LN ESR); specialty alloys such as Nitronic®, Inconel® and Hastelloy®, as well as OFHC Copper, Titanium, Aluminum, Niobium and Molybdenum.

Most vacuum systems include uniquely designed components such as base plates, hinged doors, domed lids and frames. We can design and manufacture all of these and more, as separate items or as part of an integrated assembly.

Applications Engineers Can Help

We can design, build and integrate custom components and fittings of any size or complexity. From a simple, custom length nipple to a complex baseplate assembly with multiple ports and features, contact our experienced Applications Engineers at info@andersondahlen.com or **852-763-4700** to get the conversation started.

Custom Flanges and
Complex Adaptors

Baseplates,
Lids and Doors

Welded Stainless
Steel Frames

Projects of any size or complexity.

Applied Vacuum specializes in engineering and fabricating both small and large-scale projects ranging from one-time builds of custom equipment to repeat manufacture and delivery of process modules and systems. We fabricate vacuum chambers, weldments and related components of virtually any size or complexity using the latest engineering and design software, advanced modeling and analytical tools.

To get started on your project, call 763-852-4700
or visit us at AndersonDahlen.com/vacuum.

PRESSURE RANGE	TORR	PA	ATMOSPHERE
Rough	760 to 1×10^{-3}	1×10^{-9} to 1×10^{-1}	1 to 1×10^{-6}
High vacuum	1×10^{-3} to 1×10^{-9}	1×10^{-1} to 1×10^{-7}	1×10^{-6} to 1×10^{-12}
Ultra-high vacuum	1×10^{-9} to 1×10^{-12}	1×10^{-7} to 1×10^{-10}	1×10^{-12} to 1×10^{-15}
Extreme-high vacuum	$<1 \times 10^{-12}$	$<1 \times 10^{-10}$	$<1 \times 10^{-15}$