With 30 years of experience manufacturing custom ultra-high vacuum products, our Applied Vacuum Division has the tools and technology to provide most requirements. We deliver total vacuum solutions including chambers and assemblies, flanges and components, motion, manipulation and transfer devices, as well as custom integrated equipment.

Since 1942, Anderson Dahlen 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.
Integrated Water Cooling

ASME/PED Pressure and Cryogenic Rated Designs

Stainless Steel, Aluminum, Titanium and Other Alloys

Vacuum Ranges of $1 \times 10^{-3}$ to $1 \times 10^{-13}$ Torr

Up to 20’ Length and 14” Diameter

Integrated Water Cooling

Industrial to Extreme-High Vacuum.

Chambers for World-Class Manufacturers, National Labs, Universities and R&D Groups.
Chambers of Any Size or Complexity
Our Applied Vacuum Division fabricates custom chambers and assemblies from moderate vacuum for industrial processes to extreme-high vacuum (XHV) for critical scientific study. What’s more, we manage a range of production volume from custom design-and-build projects for national labs and universities to repeat production for equipment manufacturers.

Integrated Cooling Options
For vacuum systems involving processes with significant thermal output, we provide integrated cooling options such as welded and hydro-formed channels or double-wall designs.

Rated for Vacuum, Pressure and Cryogenics
Our engineering group can assist you with design considerations to meet safety and mechanical concerns, including ratings for ASME/PED pressure and cryogenic requirements.

Critically Cleaned, Tested and Inspected
Throughout the build process, extreme cleanliness and attention to finish quality are paramount. All welded assemblies are 100% helium leak tested. We have Certified Welding Inspectors® (CWI) to review critical weld joints. Final dimensional inspection utilizes our Coordinate Measuring Machine (CMM).

Engineering and Design Support
Our engineering and manufacturing resources will help take your requirements from initial concepts, to fully engineered designs, to completed and tested products ready for use.

We utilize SOLIDWORKS® 3D design and advanced analysis software, enabling expert review of critical tolerances, part alignment, chamber wall deformations, weld stresses and other features.

We Can Design It. We Can Build It.
Motion, Manipulation and Transfer Systems
Anderson Dahlen vacuum chambers can include basic to complex sample motion, manipulation and transfer systems that ensure precision, alignment, accuracy and repeatability. Our integrated solutions range from simply adding a linear or rotary motion device to a custom chamber up to full-scale vacuum equipment with sample transfer, staging and heating/cooling.

Custom and Standard Components, Flanges and Fittings
Our Applied Vacuum Division offers a complete line of CF, ISO and KF style products. We can add custom features 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 design and manufacture all of these and more, as separate items or as part of an integrated package.

Critical Components.
Anderson Dahlen engineering and manufacturing take your requirements from initial concept to fully engineered designs and products, tested and ready for use. Our project managers combine chamber and component manufacturing with instrumentation and controls to deliver three types of custom integrated vacuum equipment.

**Custom Integrated Equipment 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 interfaces for recipe driven process control, data logging and reporting. Options include heaters, chillers, deposition sources and in-situ measurement.
Anderson Dahlen Applied Vacuum Division specializes in engineering and fabricating large-scale projects 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 and complexity using the latest engineering and design software, advanced modeling and analytical tools. And we accomplish it at the lowest cost and in the shortest lead-time.

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

Large-scale project expertise

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