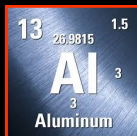


## Advantages of ALUMINUM

- 10x the thermal conductivity and 21x the thermal diffusivity for fast bake outs and unmatched thermal performance
- 7 orders of magnitude less hydrogen for ultra pure vacuum
- Outgassing rates of less than 10 to the -13 Torr liter/sec cm<sup>2</sup> suitable for Extreme High Vacuum (EHV)
- Non magnetic for applications that require it
- Lower cost material for improved bottom line
- Can be anodized for electrical or chemical resistance
- Machinability up to 10x faster for lower manufacturing costs
- 1/3rd the weight for superior manageability
- Less carbon for reduced contamination
- Low Z for less residual radiation



## Advantages of TITANIUM

- Low thermal conductivity
- No hydrogen for ultra pure vacuum
- No carbon for greatly reduced contamination
- Option to be anodized for electrical or chemical resistance
- Yield tensile strength of 40—160 KSI
- Non magnetic
- Low thermal expansion
- Corrosion resistance
- 45% lighter than steel
- Superior XHV capabilities
- Once activated, behaves as a getter to absorb hydrogen



## SYNCHROTRON CUSTOMERS

ESRF LBNL-ALS

Argonne National Lab-APS

CAMD NSCL Soleil

NLS I & II CERN

Thomas Jefferson National Accelerator Facility

BESY NSRRC

ALBA Spanish Light Source

CLRC DESY

Canadian Light Source

## ABOUT ATLAS TECHNOLOGIES

### A BOLD APPROACH TO VACUUM

### LEADERS IN ALUMINUM AND TITANIUM VACUUM

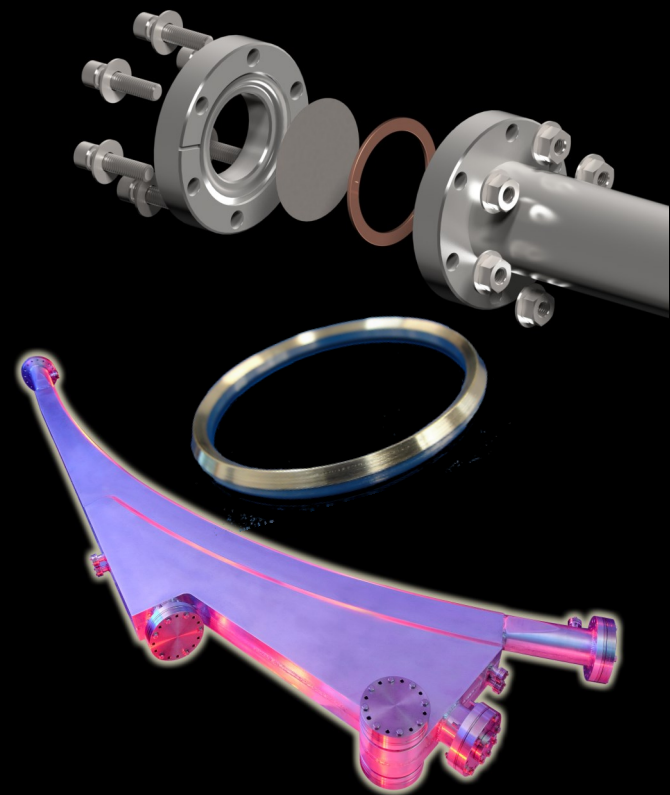
We develop novel products with next-generation metals that better serve our customers, often designing and manufacturing projects to solve some of the most difficult UHV, XHV and UHP challenges.

### INNOVATORS OF BIMETAL BONDING TECHNOLOGIES

Our bimetallic technology aids us in improving functionality and helps our customers think about projects beyond stainless steel. From nuclear medical applications to semiconductor OEMs, Atlas Technologies applies innovation to crucial processes and delivers superior results that advance industry standards.

## SYNCHROTRON PRODUCTS

Solutions for Ultra-High Vacuum and Purity



phone: 360.385.3123 · fax: 360.379.5220

email: [info@atlasUHV.com](mailto:info@atlasUHV.com) · web: [www.atlasUHV.com](http://www.atlasUHV.com)

location: 305 Glen Cove Road · Port Townsend WA 98368



## SPECTROMETERS FOR SYNCHROTRONS

### qRIXS

Momentum-Resolved Resonant Inelastic X-Ray Scattering Spectrometer *pending license from LBL*

## VACUUM CHAMBERS FOR SYNCHROTRONS

### Aluminum Chambers

The world's finest and most advanced UHV aluminum chamber technology in a wide variety of configurations

### Vacuum Suitcase

Moves items from one chamber to another while holding vacuum at low to extreme high vacuum downplay

### Titanium Vacuum

Supports XHV and EUV projects with vital advantages: non-magnetic, very clean and active pumping

## O-RINGS AND SEALS

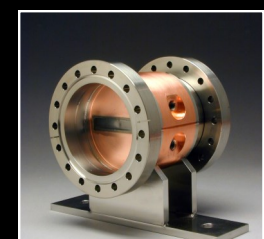
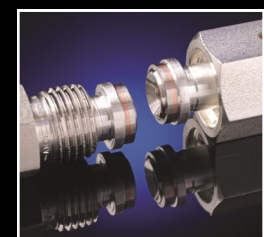
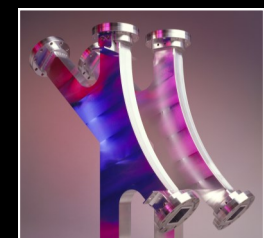
### WOLL Seal

Eliminate o-ring permeation with a versatile all metal UHV seal for nearly any port shape or existing o-ring groove.

## SYNCHROTRON SURFACE FINISH

### Aluminum Emissivac UHV Polish

RMS level <8 micro inches creates a mirror like finish on flat and concave interior walls of UHV and XHV vacuum chambers resulting in much lower thermal emissivity & better vacuum



## ATLAS PRODUCTS

for  
SYNCHROTRON  
applications  
that utilize the  
advantages of  
next-generation  
metals

BETTER  
CLEANER  
VACUUM

Standard and custom  
design solutions

360.385.3123

[www.atlasUHV.com](http://www.atlasUHV.com)  
[info@atlasUHV.com](mailto:info@atlasUHV.com)

## SYNCHROTRON VACUUM COMPONENTS

### Bimetal Transition Couplings

Metallurgical bonded dissimilar metal joints provides an all welded transition for dissimilar metal tubes or pipes

### ATCR Fittings

For processes requiring high thermal conductivity, light-weight materials, or chemical resistance, ATCR fittings produce robust, demountable use of aluminum tubing

### Foil Window Flange

An ultra thin Al or Ti window for quick, inexpensive replacement in the field. Excellent alternative to beryllium

### Bimetallic CF Flanges

Enable aluminum UHV using proprietary explosion bonding bimetal flanges are fully compatible with standard Con-flat™ flange interface

### Titanium Flanges & Fittings

Atlas standard titanium CF flanges are available in all sizes from mini (DN 16) to 16.5" (419mm) diameters. Also Atlas Titanium face seal fittings are also available in industry standard sizes. Titanium metal seal fittings can obtain XHV and UHV when used to join to other titanium faced components

## TITANIUM SUBLIMATION PUMPS

### Internal and External

Delivers very high pumping speeds for active gasses in XHV and UHV environments

