

# Vacuum Engineering

## Manufacturing Technologies

The Manufacturing, Science & Technology Center engineers, fabricates, assembles and characterizes vacuum systems, components, and processes. Staff can trouble shoot and upgrade existing vacuum systems.

### Capabilities

- Engineering expertise to define, design and fabricate vacuum furnaces, deposition systems and any vacuum environment based process or experimental system
- Computer-aided engineering of systems including parametric 3-D solid modeling with ProDesktop (Parametric Design)
- Outgassing rate measurements and mass spectroscopy of materials and components
- Machining and welding capability for constructing unique vacuum components for prototype or production applications



System  
Solid  
Model

UHV  
Evaporation  
System



### Resources

- Experienced design engineering and fabrication staff
- Autocad and ProDesktop CAD capabilities
- Machining and welding tools
- Permanent and portable clean rooms for vacuum system assembly

### Accomplishments

- Engineered and fabricated aluminum UHV research systems for plasma physics experiments and neutron detector calibration source
- Fabricated and designed UHV system for in-situ real time stress measurements of metal hydride films
- Engineered and fabricated several complex vacuum processing systems including deposition and exhaust tools

### Contact

Ron Goeke, (505) 844-4171  
[rsgoeke@sandia.gov](mailto:rsgoeke@sandia.gov)

Juan A. Romero, (505) 845-9264  
[jarome@sandia.gov](mailto:jarome@sandia.gov)