



**Ability**  
Engineering  
Technology Inc.

"Who says it can't be done"

Veteran & Minority Owned Small Business



Ability Engineering Technology, Inc. is a multi-disciplined engineering, design and manufacturing company specializing in providing standard as well as custom-engineered cryogenic and process equipment, and precision-machined parts for application within the energy, industrial, and scientific market segments. As a Veteran & Minority-owned Small Business with more than 50 years of expertise in delivering engineered solutions to its global customer base, AET is noted for product quality, versatility, and engineering creativity.

## Core Expertise

- Design and manufacture standard and customized equipment and parts for cryogenic and process applications
- Design and build one-of-a-kind prototypes in collaboration with Scientific institutions, the US Federal Government, NASA and Industrial companies
- Manufacture of complex precision machined parts and assemblies
- Testing Services: Helium, Hydrostatic, Pneumatic, X-Ray, Dye Penetrant and Magnetic Particle. Also vacuum testing of equipment used at pressures as low as  $10^{-10}$  Torr and temperatures as low as  $-452^{\circ}\text{F}$
- Consultation Services: Aftermarket Services (include in-house and on-site repairs), New Product Design, Scientific R&D, Engineering Services
- Welding and Fabrication Services: MIG, TIG, and Inert Atmosphere. Metal expertise includes: all types of Inconel, Hastelloy, aluminum, titanium, and zirconium, as well as numerous forms of heat and corrosion resistant stainless steel and other nickel alloys.

AET offers unsurpassed expertise in the design of customized cryogenic vessels used in a variety of low-temperature and cryogenic applications. As a fully certified ASME Code Section VIII facility, AET has the requisite expertise to design, and manufacture products such as: vacuum-insulated containment vessels, heat exchangers, cold boxes, dewars, cryostats, reactor vessels for pilot plants, gas scrubbers, adsorbers, radiation shields, distillation columns, and purifiers. The majority of these products are used throughout the liquid-gas supply chain for the purification, liquefaction, distribution, storage and end use of industrial gases and hydrocarbons.

In addition to cryogenic equipment, we design and manufacture precision-parts, as well as provide engineering solutions to our diverse customer base.

With more than 50 years of design engineering and manufacturing expertise, AET has established a strong reputation for “designing products for manufacture.” Close collaboration between our Engineering and Manufacturing teams, as well as with our Clients is a hallmark of our success and the reason for our product knowledge and industry versatility.

Critical to AET’s success, has been a comprehensive quality program that conforms to both Military Specifications Mil-I-45208, NQA-1, as well as Section VIII of the ASME Code for design and manufacture of pressure vessels. All welders are ASME code certified, and all materials used are traceable to their source in accordance with ASME Code requirements.



## Industries Served

Aerospace	Scientific Research & Development
Industrial Machining	High Technology
Power Generation	Petrochemicals
Biomedical	Space Flight
Natural Gas Processing	Industrial Gasses
Renewable Energy	Pharmaceuticals
Food Processing	Transportation
Oil & Gas	

## Differentiators

- ASME Code Certified (Section VIII)
- Staffed with PE's & ME's
- Concept-to-Design expertise
- Waterjet cutting capabilities
- Certified Welders (Inert, TIG & MIG)
- Metallurgical Consultancy
- Custom coil rolling
- Custom Cryogenic valve manufacturing

## Customers Include

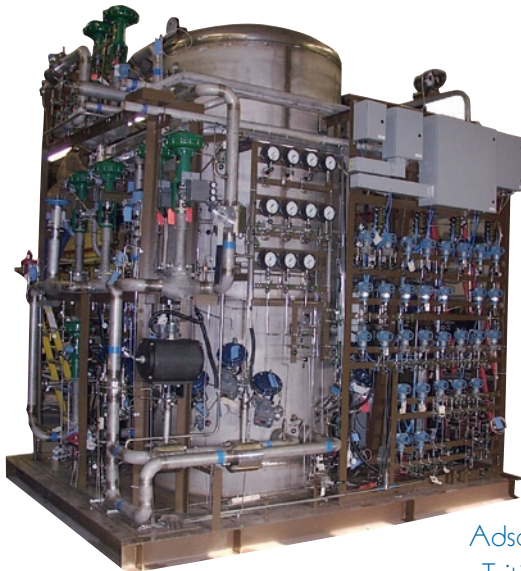
ABB	FMC Technologies	Sabic Americas, Inc
Air Liquide	General Atomics	Sciaky, Inc.
Argonne National Labs	General Electric Co	Teledyne Brown Engineering
BASF Catalysts, LLC	Illinois Institute of Technology	Tenneco
Battelle Energy Alliance	Indiana University	Thermionics
BOC Gasses	ITT Aerospace	Thomas Jefferson National Accelerator Facility (JLab)
Brookhaven National lab	Jefferson Science Associates	Transportation Technology, Inc.
California Institute of Technology	Joseph T. Ryerson & Son, Inc.	United Technologies
Case Western Reserve University	Los Alamos National Labs	University of Alabama
Coca Cola Enterprises	Massachusetts Institute of Technology	University of Michigan
Columbia University	NASA	University of Wisconsin
Commonwealth Edison	North Carolina State University	US Air Force
Cornell University	Northrup Grumman	US Department of Energy
Coskata Energy	Nuvant Systems, Inc.	US Navy
Cryo Technologies	Oak Ridge National Lab	Whiting Corporation
Dresser Inc.	Praxair	Xytel Corporation
Encana Oil & Gas	RNL Technologies	Xytel India
Fermi National Lab	Redstone Aerospace	
Florida State University	Ryerson Steel	



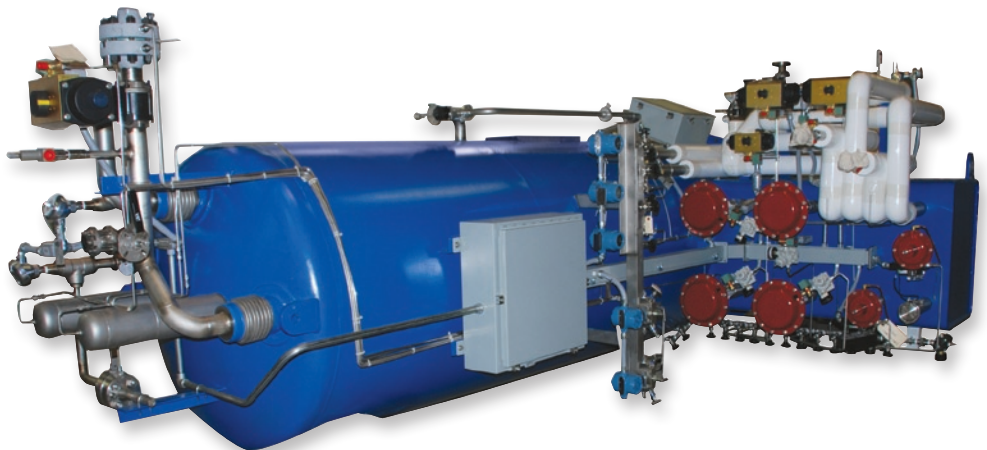


Space simulation  
chamber  
( $10^{-8}$  Torr,  $-320^{\circ}\text{F}$ )

AET's engineering team has more than 50 years of experience designing, fabricating, manufacturing, and repairing equipment used in a variety of cryogenic and process applications. We have worked with laboratories and universities as well as assisted commercial magnet manufacturers in the design of "state of the art" cryostats for superconducting magnets and test cryostats for the qualification of electronic devices using superfluid helium. Other products manufactured and serviced include Heat Exchangers, Dewars, Cryostats, Process Control and Distribution systems, Purifiers, Adsorbers, Evaporators, Liquefiers, Vacuum Equipment, Cryogenic Refrigeration Systems, Vacuum Jacketed Piping Systems, Reactor Vessels, Distillation Columns, Cryogenic pumping systems and Cold Boxes. In addition, AET has a line of economical cryogenic pumps which are available either as a sump pump configuration or as a cold box mount. Each pump is custom designed for each customer's system and application.



Adsorber skid for  
Tritium removal



Helium Purifier

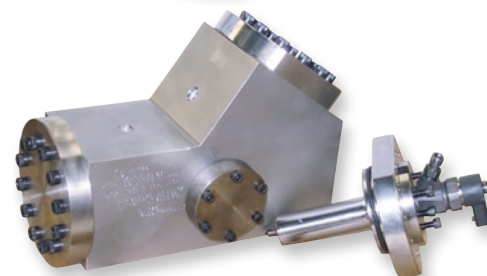


AET has more than 20 years of strong collaboration with National Laboratories, the US Department of Energy, NASA, Universities, as well as Scientific Research & Development organizations at industrial companies. We are well established as a global player in the development, design, and manufacture of "state of the art" equipment for our clients in the High Vacuum, Cryogenic, Superconducting Magnet field as well as for the Process industry. Our Engineering team works collaboratively with Scientists to understand their engineering challenges in order to design and manufacture equipment that meets their specifications. We are renowned for providing value-added engineering solutions that enhance the performance of the final product.

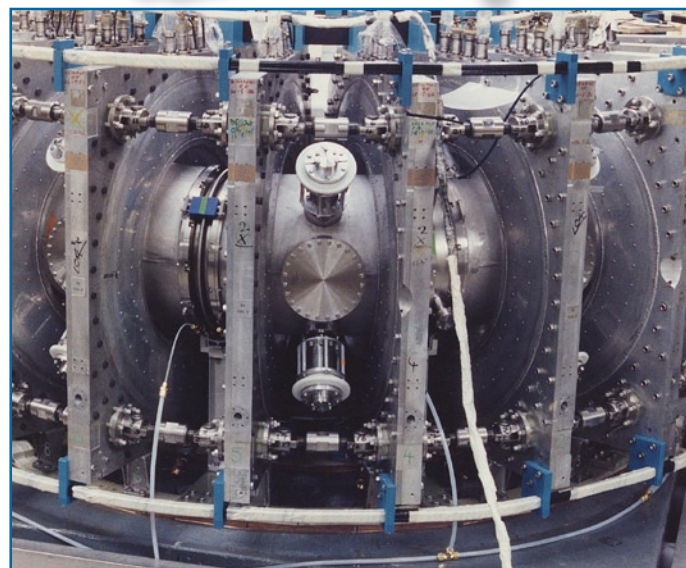
Bottom of cold box for  
distillation column



Fuel injection test-cell for  
droplet size determination  
(10,000 psi)



Tokamak  
(designed for  
nuclear-fusion  
research)







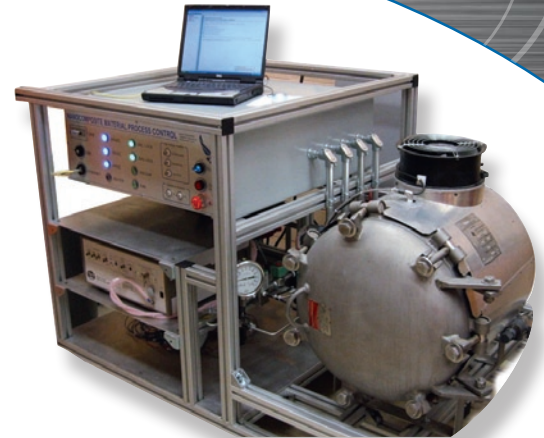
Over the last 50 years, Ability Engineering Technology, Inc has developed a reputation for providing highly engineered, complex precision-machined parts and assemblies for industrial companies in diverse industries such as power generation, aerospace, rail, space flight, marine, semi-conductor, and food processing. We can manufacture parts from client drawings as well as reverse-engineer and manufacture parts from samples. Parts manufactured can vary in size from a few thousands of an inch to several feet, and we have the expertise and equipment to manufacture simple as well as complex parts. We can support both short and long production runs, and our water jet machine is capable of cutting up to 6" thick steel. Our machinists and welders are experienced in working with all types of inconel, hastalloy, aluminum, titanium, zirconium as well as numerous forms of heat resistant stainless steel and other nickel alloys.

Due to our years of collaboration on projects with DOE laboratories, Universities, and industrial companies, our experienced manufacturing and engineering teams have gained a competitive edge in providing value-added solutions for our customers, designing products for manufacture, and extensive product knowledge.

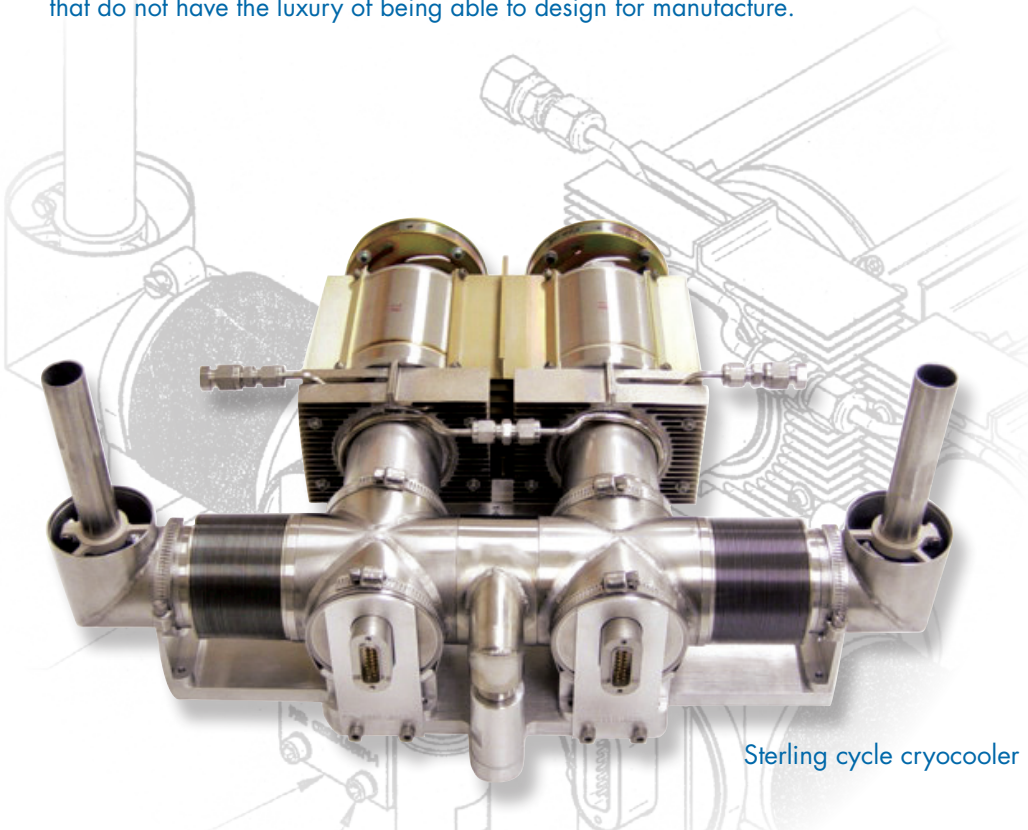


Precision machined parts for multiple industries

Our highly trained engineering staff has over 50 years of mechanical design and project management expertise. In addition, we provide engineering and manufacturing expertise for designing and building prototype equipment. Combined with our in-house machining and fabrication capabilities, AET's engineers are intimately involved in the production of every part or equipment, and we have the capability to take a project from concept to completion. The constant interaction between our Engineering and Operations teams has provided years of practical expertise in developing value-added engineering and manufacturing solutions for our global customer base. This competitive advantage differentiates us from other design firms that do not have the luxury of being able to design for manufacture.



Metal composite  
testing in autoclave



Sterling cycle cryocooler

AET has the technical staff and expertise required to meet all your testing requirements. Testing services provided include Hydro testing, Pneumatic, Helium Mass Spectrometer, Cold shock testing, X-Ray, and Die Penetrant. We can provide outgassing of components in our vacuum chambers or testing of equipment and materials in a vacuum environment performed at pressures as low as  $10^{-10}$  Torr and temperatures as low as  $-452^{\circ}\text{F}$ .

## WATERJET EQUIPMENT

Ingersol Rand Abrasive WaterJet Cutter

- Two Heads
- Cuts up to 4" Steel

## CNC MACHINING CENTER

### Hurco VMC

- Model KMB1
- Table Size 14" x 49"
- Travel 14" x 21"

### Hurco VMC

- MD1 Three Axis Mill
- Table Size 18" x 42"

### Webb VMC (2)

- Model 3-VH
- Table Size 10" x 50"

### Doosan Daewoo

- Vertical Machining Center
- Table Size 25" x 30"

### Haas VF-2

- Vertical Machining Center
- Table Size 18" x 30"

### Haas VF-3

- Vertical Machining Center
- Table Size 20" x 40"

### Haas VF-4

- Vertical Machining Center
- Table Size 20" x 50"

### Haas SL-30

- CNC Turning Center
- 30" swing x 35" centers

### Haas SL-40

- CNC Turning Center
- 40" swing x 45" centers

### Haas SL-40L

- CNC Turning Center
- 40" swing x 80" centers

### Haas VF-5

- Vertical CNC Machining Center
- 26" swing x 60" table

## CNC LATHES

### LeBlond Lathe

- Model Mark Century 550
- 19" swing x 4 ft Centers

### Tur 560 Engine Lathe

- 24" swing x 120" centers

### Tur 630 Engine Lathe

- 26" swing x 120" centers

### Tur 710 Engine Lathe

- 28" swing x 156" centers

### Poreba TPK 930 Engine Lathe

- 36" swing x 120" centers

## LARGE MANUAL MACHINERY

### Polamco Poreba Engine Lathe

- Model TR-135-BI
- 53" swing x 23 ft. centers with
- 41-3/8 over the compound and
- 4-1/8 dia. Spindle bore
- The gap will swing 60"x15-3/8

### Bullard VTL

- 48" Chuck with 54" swing

### Blanchard Grinder

- Model 22k-42 x 36

### Slotter:

- 19" open height & 18" stroke
- 34" Dia, Rotary Table

### Boring Mills (4):

- No 41 Lucas 3" (54 x 30" Table)
- No 42b-60 Lucas 4", (60 x 42" Table)
- 25T G & L 3", (50" x 24 " Table )

### Drills (26):

- Multiple types

### Grinders (8):

- Multiple Types

### Heat Treating:

- 12" Rockwell Tester
- 9 x 12 x 40" Huppert Electric Furnace

### Lathes-Engine (10):

- 11 x 24" Wards Tool Room
- 16 x 42" Sebastian
- 17 x 126" South Bend
- 18 x 120" Meuser MetricScrew

- 18 x 54" A.F. M. Metric Screw
- 19 x 52" Reed-Prentice
- 20 x 60" Lansing
- x 120" Monarch
- 28 x 72" LeBlond
- 53 x 23" Poreba/Polamco

### Lathes – Turret (3):

- No 1 A Warner & Swasey Universal
- Bullard VTL –36" Dia Chuck
- Bullard VTL – 48"Dia Chuck

### Mills (13):

- Multiple sizes- 144" maximum table

## MISCELLANEOUS EQUIPMENT

- Covel Optical Comparators
- Helium Mass Spectrometer
- Hydrostatic Testors
- Pneumatic Testors
- Profilometer
- Sanders, Grinders, Blasters
- Atmospheric Glove Box

### Presses (4):

- Multiple- up to 200 ton hydraulic

### Saws (6):

- Multiple Sizes

### Slotter:

- 19" stroke, 34" Rotary Table

### Tig Welders (7):

- Multiple models

### Arc Welders (2):

- Miller Dial Arc 250P ac/dc

### Hand Torch (2):

- Oxycetylene Cutting Torches

### Mig Welders (4):

- Miller Maxtron 450

### Plasma Cutter (2):

- Thermal Dynamics Signature Pak (1250 x R 10W)
- Thermal Dynamics Thermal Arc (Pak 10 x R 13W)

### Seam Welder:

- Pandaris Model #96E – Seamer

### Spot Welder:

- Miller Resistance Welder





Ability  
Engineering  
Technology Inc.

"Who says it can't be done"

16140 South Vincennes Avenue  
South Holland, Illinois 60473

phone (708) 331-0025

fax (708) 331-5090

[www.abilityengineering.com](http://www.abilityengineering.com)

