About Us

A&A Machine & Fabrication LLC in southeast Houston, TX, is a full-service, 24/7/365 machining and ASME code shop fabrication company with over 80 employees and 82,000 sq. ft under roof. Our operation is geared toward support for emergency repair, regular maintenance, and new manufacture of goods and hardware.

A&A’s machining services utilize over 50 manually operated machines including VTLs with max work piece capacity of 88 inches diameter, lathes that can accommodate parts that are over 20 feet long, and several large horizontal mills. CNC machining capabilities include 8 lathes with up to 40 inches diameter capacity and vertical milling machines, including 4th axis. We also offer Electro Discharge Machining (EDM) including plunge and small hole.

A&A’s ASME code fabrication facility has a skilled work force to meet your stringent custom welding fabrication requirements and possesses the U, U2, U3, PP, S and R stamps as well as A2 Certification for service in The People’s Republic of China. Our organization is able to service specialty customers such as gasification, high pressure tubing (LDPE), and medium pressure piping (MFP), as well as pressure vessels, piping, and various structural assemblies. Special purpose equipment includes autofrettage, orbital welders, and thick-wall tube benders.

Our engineering staff utilizes state-of-the-art COMPRESS, AutoCAD, and MasterCAM software packages to perform detailed engineering calculations that can be stamped by our in-house Professional Engineering staff, designed and drafted to your specifications.

Our project management team can work with you and your EPC firm and develop detailed inspection plans, oversee your critical schedule through the manufacturing process, and deliver your product on time. This, coupled with our robust Quality Control Program, ensures that we consistently deliver quality parts and the necessary documentation that meet your needs.

Quality is a constant in our production process with several full-time quality control inspectors employed. A&A can provide one-of-a-kind components, large volume runs, and repairs to existing components utilizing our machine and fabrication expertise.

Machine

A & A Machine & Fabrication LLC’s range of products include high pressure tubing, seal rings and fittings, valve bodies, valve plugs, pump shafts, lube oil console fittings, flanges, packing glands, bolts, studs, sleeves, cylinders, liners, and components for check valves, pelletizers, and compressors. In addition to traditional CNC machining, A&A can also provide small hole EDM CNC machine work. Small Hole EDM services include:

- Working With Any Metallic Material... Even Carbide
- Straight Holes From .008 to .125 Diameters With a Maximum Depth of 12”
- Precisely Located Holes With Our CNC State of the Art Equipment
- High Speed Operations Saving You Time and Money
- Blind Holes to Precise Depths
- Using safe, non-polluting / non-contaminating deionized water

CNC Turning

A&A employs multiple CNC turning lathes including high-performance Haas CNC Lathes. Our facing and boring capabilities are unrivaled, and tolerance work is our specialty. Multiple CNC lathes have C-axis milling capability. Our newest Haas Lathe has a 7” hollow spindle and a 32” max diameter turning capacity.

The biggest and best of petrochemical and oil refineries call on A&A’s CNC turning shop to produce various parts and equipment, including:

- Pump Shafts
- Collars
- Valve Bodies & Plugs
- Flanges
- Metering Plates
- High Pressure Tube Threading
- Pump Sleeves
- Valve Plugs
- Seal Rings
- Bolts
- Pump Housings & Plates
- Couplings
- Valve Stems
- Packing Glands
- Cylinder Liners
- Sleeves & Couplings
High Pressure Tubing

We offer both the traditional such as "J" bends, "U" bends and jacket replacement, and also the latest in "short radius hot bends," copper cladding, jacket repair, tube replacement and autofrettage. We thoroughly understand the necessity of minimum down time of these major capital investments so we offer climate controlled material storage, and a full line of installation and fitting hardware.

Specialty LDPE Fabrication

Specialty LDPE services include Jacketed and Bare Tubing fabrication.

- Cut / Rolled Threads
- Autofrettage
- Shrink Rings
- Weld Rings
- Tube to Jacket Assembly
- High Pressure Machining
- Lens Rings
- T-lens Rings
- Cold Bending
- Jacket Closure / Sealing
- Packing Glands
- Expansion Joints
- Copper-Clad HP Tubes
- Flanges
- Cone Rings
- Valve Bodies

Fabrication

Our Custom Welding Fabrication Services Include:

- Carbon Steel
- Nickel Chrome
- Inconel 625
- Other Exotic Metal Alloys
- Stainless Steels
- Duplex Stainless
- All Nickel Alloys
- Nickel
- Sillite
- Hard Surfacing

Pressure Vessel Fabricating Services

- ASME Coded Vessels
- ASME Division 3 (over 10k psi)
- National Board “R”
- Paint
- Hydro-Test

Process Skid Fabrication

A&A is a full service ASME code fabrication and machine facility offering custom skid fabrication. Our operations are geared to provide a diverse support network to the plant sites. We can design and layout a process skid to accommodate the equipment, piping and instrumentation that you have defined or fabricate the skid to your detailed layout. We have the skid fabrication expertise, experience and facilities to tackle your most demanding skid fabrication requirements.

- Lube Oil Consoles
- Catalyst Meter Skids
- Compressor Skids
- Vapor Recovery Skids
- Seal Oil Skids
- Custom Skids
- Structural Steel / Fabrication
- Cylinder Roller
- Pipe Skids
- Pipe Threading
- B31.1
- B31.3
Project Case Studies

Exotics Piping
Sabine River, Texas

ASME Code Stamped Large Diameter Pressure Vessel
Sadara, Saudi Arabia
Engineered, designed, fabricated and delivered 2 Low Pressure Separators and shipping structure. Vessels featured Carbon and Stainless Steel construction, Teflon liner, and heater jacket. Vessel was 14” diameter, 1” thick shell, and 22” T-to-T with head and body flange assembly. Able to meet challenges of various customizing requirements.

Gasification
A&A is a qualified vendor to manufacture and repair Syngas Feed Injectors and other equipment for the Gasification industry.

One Stop Shop
- Gasifiers, Burners, Feed Injectors
- Radiant Gas Coolers
- Dip Tubes
- Quench Rings
- Repairs Stands
- Full Inspection & Repair Scope

New Manufacture, Repair and Refurbishment For 25 Years
- Injectors, Tips, Coils, Lances for 5” through 10” burners
- Materials
  - Inconel 600
  - Stellite 6
  - Haynes 188
  - Other Exotic Alloys

Gasification Customers:

Oxygen Mixers
Kuwait
Project requiring both precision machining & fabrication. Inconel Tips, Hastelloy Feeders with ID Chemical polishes & passivated OD, Stainless Steel Shell.

Get quality, reliable work when you turn to south Houston’s fabrication experts.
Call A & A Machine & Fabrication LLC at 409-938-4274 today.