



**Helander Metal Spinning Company**  
*All Spun Metal Products*  
An ISO 9001:2015 & AS9100 Rev C. Registered Company

# Company Overview



## Company Profile

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### **Superior Quality. Advanced Machinery. Highly Skilled Technicians.**

All of that and more encompass the name of Helander Metal Spinning Company.

For over 70 years, Helander has been a major partner to a variety of Fortune 500 companies and small businesses, providing them with metal forming and fabricating services.

Our long history of production excellence has been built by continually adhering to our customer's rigid specifications. Quality is and has always been our emphasis.

Our niche is forming cylindrically shaped parts ranging from 1.00" diameter to 72" in all types of metals and production quantities. Helander's Core Business Competencies are Metal Spinning and Sheet Hydroforming (Deep Drawing).

We work with the aerospace industry, high-end furniture manufacturers, Tier 2 and 3 automotive companies, the medical sector, and agricultural industries. Our emphasis is on providing our commercial, aerospace and defense customers with superior service, no matter the industry. We focus our efforts on customer service, prompt deliveries, and efficient performance.

## Geographic Footprint

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International

## Industries Served

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Commercial Food Equipment  
Industrial  
Furniture  
Military  
Aerospace & Defense  
Waste Storage  
Oil

Agriculture  
Filtration & Separation  
Commercial Lighting  
Alternative/Green Energy  
Medical & Laboratory  
Commercial HVAC  
Specialty Automotive  
Streets & Sanitation



## Current Customers

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Boeing  
Lockheed Martin  
Northrop Grumman  
Pratt Whitney  
General Dynamics

## Services/Products Available

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Metal Spinning  
Hydroforming  
CNC Machining  
Welding  
Metal Polishing  
Deep Drawing



## Key Manufacturing Equipment List

### 20" Hydroforming Press

At the heart of Helander Metal Spinning's hydroforming services is our cutting edge 20" hydroforming press. Sheet hydroforming is an ideal process for manufacturing parts with complex or asymmetrical geometries that would require multiple punch cycles in a matched die stamping process. By replacing one of the rigid dies with highly pressurized hydraulic fluid contained in a flexible diaphragm, its dynamics allow it to take on the form of any conceivable geometry. We use it to create an almost unlimited range of geometric shapes, either shallow or deep drawn, from a wide variety of metals and metal alloys.



Designed by engineering and manufacturing professionals with decades of experience in the machine tool industry, this hydroforming press sets the industry standard in hydroforming technology. Their pioneering pressure containment system offers a significantly reduced press size and operates with outstanding integrity and durability. Modern design software, state-of-the-art hydraulics, and computer-driven controls provide us with the capability to produce seamless parts that are extremely lightweight, strong, and durable.



This flexible press is fully programmable can be used interchangeably in the deep draw or fluid cell process mode. For deep drawn parts or those with curved geometries, the downward-acting bladder holds the material during pressurization as the tool is extended upward by a hydraulic punch cylinder. This draws the material into the bladder and allows it to flow as needed. By contrast, the fluid cell process allows the downward pressure of the bladder to form the material around the tool, allowing multiple parts to be run in a single cycle.



Operating at up to 10,000 psi, this hydroform features advanced control and hydraulic systems that allows us to precisely manage the forming pressure of punch travel, which facilitates the production of net-shaped parts. Its "open" feature enables our operators to visually inspect parts mid-cycle, after which they can either continue the cycle or abort in order to modify the recipe – a significant time saver in new part development projects.

Maximum punch tool diameter is 15", while draw depth capacity is 10". Outfitted with components from well-known names in industrial automation, it gives us the capability to for an extensive PM program.

This exceptional press provides us with a high-reliability solution for production of complex shapes for tight tolerance parts that need little to no finish work. Single tool technology dramatically lowers tooling costs, and process flexibility makes it an excellent choice for prototype and new product development projects. Our operators have a solid understanding of the hydroforming process as well as the technical skills to take advantage of the high-performance features this press has to offer, and we pass those benefits onto you.

**Helander's future plans are to expand our department with larger machinery to 32" hydroforming press and 1" thick spinning capacity. If you would like to be part of our plans, please contact us at [spin@helandermetal.com](mailto:spin@helandermetal.com)**



## Key Manufacturing Equipment List (cont.)

### CNC Spinning Machines up to 80" Diameter - Powerful Spinning Center

At Helander Metal Spinning, our powerful 80" diameter spinning lathe provides a bridge between modern technology and one of the oldest metalworking crafts. By combining advanced CNC controls with high speed production and low tooling costs, it gives us the ability to provide a competitive alternative to the deep draw stamping process.

As a world leader in the development of machine tools for chipless metal forming, Leifeld manufactures equipment that pushes the boundaries of metal spinning technology. Incorporating well-proven, insightful, and innovative machine design concepts, our PNC 120 series metal spinning lathe distinguishes itself in terms of stability, flexibility, and its easy, convenient handling for operators.

Solidly designed and weighing up to 22 tons, vibration-absorbing cast iron parts, such as the headstock and cross supports, provide a highly rigid support structure that allows productive speeds and smooth, deflection-free motion of the rotating rollers. This high stiffness, combined with extremely low-friction guides for stick-slip-free feeding, create the ideal conditions for manufacturing precision, tight-tolerance components with outstanding dimensional accuracy and exceptional repeatability.

Our CNC Spinning Machines are equipped with a cutting-edge, richly-featured control system that is operator friendly and provides a straightforward path through process preparation and programming. Software tools facilitate import of tool contours from CAD systems, and the CNC programs can be checked and validated through 2D simulations. A "teach" sequence, programmed directly at the machine, stores the initial forming movements and control commands while the operator is manually forming the first workpiece. Playback control reproduces the motions while increasing the spindle and forming speeds to the maximum permissible level to tighten cycle times and accelerate throughout.

Serving as an ideal base for the manufacture of small, medium, or large batch sizes, this lathe has an outstanding range of flexibility. Equipped to handle blanks with dimensions of up to 2,000 mm in diameter, its longitudinal slide travel of 1,000 mm and traverse slide travel of 500 mm enable us to manufacture both small and large-scale components with extreme agility. Through tight control over radial and axial compressive forces, we are able to form complex curves, tight contours, and complicated profiles while achieving superior surface quality, even on thin-walled components.

This machine is a true metal spinning "workhorse" and one of our most valued assets. In addition to being reliable, highly productive, and easy to operate and maintain, it features optimized hydraulics and an energy efficient drive system that substantially reduces operating costs. The skills and commitment to excellence of our metalworking craftsmen enable us to derive maximum benefit from its high-performance attributes.

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## Product Samples



## Machine Capacities (Metal Spinning)

Metal Thickness	Up to 0.250" Stainless Steel Up to 0.375" Carbon Steel Up to 0.750" Aluminum
Typical Tolerance	+/- 0.030"
Max Height	48"
Part Diameter	Max 80"
In-House Metal Spinning Capabilities	Manual (Hand Spinning) CNC Spinning Tube End Closing (Hot Spinning)
Common Metal Types	<ul style="list-style-type: none"> <li>• Stainless steel (300 &amp; 400 series)</li> <li>• Carbon Steels</li> <li>• Aluminum (1100,3003,5052,6061,2024,7075)</li> <li>• Inconel</li> <li>• Hastelloy</li> <li>• Titanium</li> <li>• Copper</li> <li>• Bronze</li> <li>• Brass</li> <li>• Other alloys</li> </ul>
Typical Volume	1 to 50,000
Typical Delivery Time	4-12 weeks
Delivery Location	International



## Machine Capacities (Hydroforming)

Max Part Diameter	20.00"
Max Part Height	9.00"
Part Thickness	0.030" to 0.250"
Typical Metal Types	Stainless Steel (300 & 400 series) Carbon Steels Aluminum (1100,3003,5052,6061,2024,7075) inconel hastelloy Copper Bronze Brass

## Machine Capacities

### CNC Turning and Milling

We are equipped with two CNC mills up to 4 axis and six CNC lathes that allow for component machining and tooling/fixtures. Our largest lathe can swing 80 inches with up to 72 inches between centers and our mills have a work envelop of 20 X 40 X 30 inch. Upholding a (+/- 0.001) inch precision tolerance, our advanced CNC turning and milling equipment routinely work with a wide variety of materials, ranging from copper, brass, stainless steel, carbon steel aluminum and titanium.

### Metal Polishing

Our advanced manual lathe and turntable metal polishing equipment can provide parts with rough to fine polishing up to a #4 brush finish. Our advanced metal polishing services have assisted the needs of several industries. Meeting high industry standards, we offer metal polishing finishes ranging from 36 to up to 240 grit. With the ability to apply our services to all metals including stainless steel, steel, copper, brass, bronze, aluminum. Our metal polishing operations can be used for a broad range of applications, including assemblies, decorative items, recreational products, and threads.



## Machine Capacities (cont.)

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### **Welding**

Performing aluminum, steel, copper, brass and stainless steel welding and soldering, Helander Metal Spinning Company is a premier provider to several different commercial industries. Helander works with carbon steel up to 0.375" thickness, aluminum up to 0.750" thickness, stainless steel up to 0.250" in thickness. With 6 different welding processes from which to choose, Helander features cylindrical welding for tubing and pressure vessels, and can accommodate a wide range of welding requirements, with the ability to comply with AWS and ASME standards.

### **Deep Drawing**

At Helander, we often combine deep drawing with our leading-edge hydroforming capabilities to extend the possibilities. At Helander, we have a capability of providing 14-inch deep drawn components, with a thickness capacity of 1.00 of an inch for aluminum, copper and brass, and 0.500 of an inch for carbon steel, and 0.375 of an inch for stainless steel. We can handle parts that are up to 32 inches in diameter.

## Quality Practices

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### **Currently:**

Helander has been ISO 9001:2008 registered since November 5, 1999 and became AS9100 Rev. C registered in September 2013.

History: Certified ASME U Stamp and National Board of Boiler and Pressure Vessel Inspectors between March 1999 and March 2005. Majority of Customers were stamping their own vessels, therefore, Helander decided to retire the certification, but still utilizes the standard for guidance in all pressure vessel fabrication.

**Performed several Production Part Approval Process (PPAP)** inspections per customer requirements.

### **Certified Welding Testing Services Provided by Helander:**

In addition to our MIG, TIG, Soldering and Automated Seam Welding Services, Helander Metal Spinning Company is pleased to provide several types of certified weld testing services, including dye-penetrat testing and hydro-static testing. We also provide additional services, including engineering, stamping, and full in-house machining.



## Performance Metrics and Success Measurements

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On time Delivery  
Efficiency/Productivity measurement  
Cost of Quality  
Customer satisfaction and vendor performance

## Client Benefits

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Make design recommendations for manufacturability and cost savings  
Offer prototype development runs for sake of proving out design  
Support most quality program requirements (ppaps requirements)  
Access to a range of processes

## Management Contacts

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Sam Ibrahim, Jr

## Diversity Classification

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Woman owned