

Piedmont Machine & Mfg, Inc.

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Phone: 704.782.2227 • **Toll Free:** 800.442.2839**Email:** sales@piedmontmachine.com**Swiss Type CNC Screw Machining**

We specialize in Swiss and screw type machining of small-diameter components with complex geometries. Piedmont Machine runs Swiss/CNC screw machines with up to 7-axis capabilities. The multi-spindle, 7-axis capability of our Swiss screw machines enable us to machine parts that require multiple material removal processes, in a single operation. In addition, the automatic bar loading and CNC control capabilities of our Swiss and screw type machines facilitate lights out manufacturing.

Through Lean and lights out manufacturing practices, Piedmont Machine delivers high precision parts at competitive costs. Our custom screw machined parts are widely used in industries ranging from appliance and automotive to military. Screw type machines at our machine shop can machine turned parts with O.D. up to 1.50" while maintaining tight tolerances of 0.005". Our Swiss type machines can process bar stock of materials up to 1.25" in O.D., with tolerances close to 0.0002".

Piedmont Machine's extensive screw machining capabilities include boring, milling, reaming, and turning. Our screw and Swiss machines also enable us to perform broaching, hobbing, slotting, as well as threading operations. We work with a range of materials including alloy steels, aluminum, stainless steel, and plastic polymers. Fasteners, shafts, gears, and valve components are typical Swiss/screw machined parts manufactured by us. To compliment our Swiss screw machining capabilities, we offer CAD design assistance, CAM programming, as well as reverse engineering services to OEMs and industrial customers.

Specifications

Processes (General Capabilities)	Boring Drilling Knurling Milling Polishing Reaming Turning
Processes (Special Capabilities)	Broaching Hobbing Slotting
Processes (Threading)	External Thread Cutting Internal Thread Cutting Tapping Thread Milling Thread Rolling Thread Whirling
Part Dimension	Max: 130 in (3302 mm)
Outer Diameter	Max (Screw): 1.50 in (38.1 mm) Max (Swiss): 1.25 in (31.75 mm) Min: 0.125 in (3.175 mm)
Tolerance (Swiss)	± 0.0002 in ± 0.0051 mm
Tolerance (Screw)	± 0.005 in ± 0.127 mm
Production Volume	Max (Screw): 1 to 2 Million Units Max (Swiss): 250,000 Units Mid to High Volume Min: 500 Units

Industry Focus	Appliance Automotive Agricultural Electronics HVAC Industrial Marine Military/Mil-Spec Mining Packaging Pneumatics Hydraulics Controls Valves Bearings Oil and Gas Electrical Construction
Intended Application	Shafts Valve Components Automatic Door Components Cable Connectors Electronic Connectors Fasteners Fire Suppression System Components Fittings Gears Hardware Roller Bearings
Lead Times Available	J.I.T. Deliveries Max: 2 Weeks (On Initial Order) Min: 3 Days Quoted on job by job basis Rush Services Available
Industry Standards	ANSI ASME ASTM ISO 9001:2008 Mil-Spec PPAP RoHS Compliant
Additional Capabilities	CAD Design Services CAM Programming Services Coordinate Measuring Machines (CMM) Reverse Engineering
Equipment Capabilities	Bar Feed CNC Control Capabilities Multi-Spindle Up to 7-Axis Machining Capabilities
Equipment List	From simple 2-axis turning to 7-axis, turn-mill-drill CNC Swiss-type machines, we are equipped with a full line of CNC equipment from the following manufacturers: Star Citizen Matsuura Mori Seiki Miyano Nakamura-Tome Fanuc-RoboDrill KMT
Automation Capabilities	Continuous Machining
Materials (Metals)	Alloy Steels Aluminum Brass Bronze Alloys Carbon Steel Copper

	Stainless Steel Tool Steel Cold Rolled Steel Hot Rolled Steel Bearing Steel
Materials (Plastic Polymers)	ABS (Acrylonitrile Butadiene Styrene) Delrin Nylon Phenolic PVC (Polyvinyl Chloride) VHMW
Efficiency	Lean Manufacturing Lights Out Manufacturing
File Formats	AutoCAD (DWG,DWZ) BMP DXF GIF JPEG PDF TIFF