

CAPABILITIES

- **Sheet Metal Fabrication**
Frames/Chassis/Component
- **Laser Cutting System**
- **Stampings**
Short/Medium/Long Run Precision Stampings
- **Machining**
CNC Milling, CNC Turning/Swiss Type High Speed Turning, Electrical Discharge, Manual
- **Bus Bars**
Laminated/Machined/Stamped
- **Welding**
MIG/TIG/Spotwelding/Brazing/Copper Welding
- **Assembly**
Clinch hardware, Riveting, Screwing, Kitting
- **Tools & Dies**
Temporaries/Compounds/Progressives
- **Full Service Engineering**
Complete Product Design and Development

Corporate Office

St. Paul, MN

1220 Energy Park Drive

St. Paul, MN 55108

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Production Facilities

Brookings, S.D.

301 Sunrise Ridge Rd.

Brookings, SD 57006

605-692-1615

Shatou Nan District

Zhen'an Road, Chang'an Town

Dongguan City, Guangdong Province

China P.C.: 523816

St. Paul, M.N.

1220 Energy Park Drive

St. Paul, MN 55108

Phone (651) 646-7433

DOMESTIC EQUIPMENT

Departments

Most of our diverse products utilize the capabilities and equipment from more than one department. This versatility allows us to utilize the most sophisticated equipment that's available for each operation and change equipment and departments as the quantities progress from prototypes to production.

Engineering:

Hardware

All platforms fully networked
Intel based engineering stations

Software

Design:

ProEngineer
ProSheetmetal
SolidWorks
CoCreate Solid Designer
CoCreate ME10
Flotherm
Working Model 2D

Fabrication/CAD Software:

Radan
DP Technology Esprit X
Metalsoft

Native Pro/E, SolidWorks, STEP, IGES wireframe and DXF interpretation and direct download to key CNC production equipment. Electronic data transfer capabilities direct from your CAD systems to ours.

Tool & Die Departments:

- (5) Vertical mills with two axis digital readout
- (4) Drill presses
- (2) Lathes
- (2) Band and cutoff saws
- (2) Surface grinders
- (1) Mitsubishi, CNC electronic discharge machining (EDM)

Punch Press Department:

Punch Presses ranging from 10 to 150 tons; with air ejection, pneumatic cushions, air feeds and parts detectors.

- Stock pierce and form tooling
- Coil handling equipment
- (3) Shears
- (1) 15 ton Punch Press
- (14) 22 ton Punch Press
- (2) 35 ton Punch Press
- (1) 45 ton Punch Press
- (1) 60 ton Punch Press
- (1) 85 ton Punch Press
- (2) 121 ton Punch Press
- (1) 150 ton Punch Press
- (1) 176 ton Punch Press
- (2) 70 ton Hydraulic Press, Double Acting

Sheet Metal Fabrication Department:

- (1) Amada 1500W Pulsar Laser Cutting System
- (1) Strippit 1250 HXP custom high speed CNC punching machine with 30 ton capacity, 40 stations, 4 auto index stations, indexable multi tools, and auto load/unload system
- (1) Strippit 1250 MXP custom high speed CNC punching machine with 30 ton capacity, 40 stations, 4 auto index stations, indexable multi tools, and auto load/unload system
- (3) Strippit high speed CNC turret punching machine with 30 ton capacity, 30 stations, 3 automatic indexable 3-1/2 inch stations
- (1) Amada Togu automatic tool grinder

All pressbrakes have programmable backgages.

- (1) 10 foot, 130 ton, HDS1303, air bend, forming machine with on line/off line programmable controls
- (1) 8 foot, 80 ton, HDS8025, air bend, forming machine. Same as 130 ton.
- (1) 12 foot, 90 ton, forming machine with state of the art controls and off line programming
- (1) 10 foot, 90 ton, forming machine with state of the art controls and off line programming
- (1) 10 foot, 100 ton, forming machine
- (1) 6 foot, 60 ton, forming machine
- (1) 6 foot, 40 ton, forming machines
- (3) 4 foot, 17-25 ton, forming machines with CNC three axis operation

Assembly Department:

- (8) Haeger inserter for fasteners, auto feeders.
PEM inserter for fasteners
Power Jewlmont fastener inserter
Epoxy blending and dispensing equipment for encapsulating
Oven for buss bar lamination / epoxy curing

Secondary Operations:

- (4) Vertical mills with two axis digital readouts
- (4) Tapping machines--single and multihead
- (5) Timesaver sander (3-37", 1-9", 1-6")
- (1) Parts straightener
- (6) Vibratory barrel and bowl tumbling machines for deburring and polishing
- (1) Certified heat treating--mechanical convection and Blue M Con-Mate ultrate mp
- (2) Roller Flatteners (12", 18")

Machining Department:

- (1) Makino A51 5 axis machining center, 24.8" X 35.43" max work piece, cutting range (X, Y, Z axis) 22.05" x 22.05" x 23.62", cutting rate 1574.8" per min.
- (3) Haas VF-3 machining center with 40" X 20" table, 20 tool changer, rigid tapping and off line programming
- (4) Haas VF-2 Machining Center with 16" X 30" table, 20 tool changer, rigid tapping and off line programming
- (1) Haas VF-0 Machining Center with 16" X 20" table, 20 tool changer, rigid tapping, and off line programming

Turning Department:

- (2) Mori Seiki SL 15, 12 head Turret, Tailstock, 12' Bar feeder, parts catcher, tool presetter, CNC, up to 1.625 in. dia. stock
- (1) Haas Turning Center, SL 20, programmable tailstock, live tooling CNC, up to 2 in. dia. stock
- (1) Citizen B12 Swiss type high speed turning machine with magazine feed, capacity .057 to .500 dia.
- (1) Citizen L20 Swiss type high speed turning machine with magazine feed, capacity .094 to .750 dia.

Welding:

- (5) Spotwelder (1-30KVA, 2-75KVA, 1-85KVA, 1-200KVA)
- (4) Wire feed welders
Brazing, Soldering, and Grinding equipment
- (2) Heliarc welders

Inspection Department:

Inspection meets the requirements of MIL-I-45208A MIL-STD-105 and MIL-STD-45662

- (1) Brown & Sharpe coordinate measuring machine (27" x 27" x 24"), fully programmable with motorized Renishaw head
- (1) Numerex coordinate measuring machine (36" x 36" x 18") with full SPC software
- (4) Trimos height indicators
Rockwell hardness tester
- (2) Optical comparators 14' with surface illumination
Surface plates
Plating thickness tester
Digital and mechanical micrometer, verniers, gage blocks, pin gages
All inspection equipment calibrated regularly and traceable to the National Bureau of Standards.

Operation to ISO standards

St. Paul Facility - April 1998
Brookings Facility - June 1998

The Many Ways To Connect With Quality Tool

Modes of Communications:

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RFQ's: Send to any of the sales/estimating contacts listed above. At time of quote, we only require drawings. For electronically transmitted drawings, we prefer PDF format.

Engineering Data Files preferred format (required at time of order)

ProENGINEER
SolidWorks
STEP
.IGES 3D wire frame
.DXF
PDF (drawings)

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