



# PLANT FACILITY LISTINGS



## USA

### HYDROMAT ROTARY TRANSFER CNC MACHINES

- 3 Full CNC 12 station horizontal rotary transfer machines

### CNC TURN/MILL W/ OFF-LINE CAD/CAM PROGRAMMING SOFTWARE

- 8 CNC turn/mill machines: Main & Sub Spindle, multi turret, Y axis, live tooling: Multiple brands
- 5 CNC robotic load/unload w/ live tool and Y axis: Wasino
- 3 Swiss CNC Star ECAS 20 mm
- 3 Swiss CNC Star 38 mm 10 axis

### CNC MACHINING CENTERS OFF-LINE CAD/CAM PROGRAMMING SOFTWARE

- 10 CNC vertical mill/drill/tap machining centers: Brother
- 4 CNC vertical machining centers: Makino, Haas w/ live 4th axis
- 2 CNC horizontal Machining Center 11 station pallet pool: Tsugami FMA3
- 2 CNC horizontal Machining Center w/ 7 station pallet pool: Haas EC400
- 7 CNC Horizontal Machining Center: Makino A51nx
- MMC2 Makino cellular system w/ integrated 60 station pallet pool feeding (5) A51nx machines

### LASER MARKING

- Tykma ZetaLase marking system

### MULTI-SPINDLE SCREW MACHINES

- 12 Multi-spindle screw machines from 1" to 2 1/4" bar capacity:
  - High Pressure oil
  - Pick-Off
  - Threading
- 1 - 8 Axis CNC multi-spindle

### GRINDING

- 5 Centerless grinders
- 1 Lapping Center

### BROACHING

- 1 Five-Ton vertical broach 24"
- 1 Ten-Ton vertical broach 36"

### STAMPING

- 4 OBI punch presses
- 3 Hydraulic presses
- 3 Ton Smart Coining presses

### SAWING

- 2 Automatic horizontal bandsaws

### DEBURRING/FINISHING

- Vibratory finishing/burnishing
- Barrel finishing
- Sand & bead blasting, shot peening
- Specialty deburring
- Rust prevention coating

### SPECIALTY PARTS CLEANING EQUIPMENT

- 1 Durr Ecoclean vapor degreaser; programmable w/ultrasonics, submersible, rotation controls; zero emission
- 1 Ramco water based cleaner with Ultrasonics; clean and rinse cycles

### INSPECTION EQUIPMENT

- Full service inspection department
- FAI, PPAP, APQP, C/A, & formal problem solving
- Programmable CMM Helmel Microstar
- Zeiss CMM
- Robotic inspection sorting system:
  - 1 camera surface finish
  - 3 cameras dimensional
  - Robot load unload
  - Integrated computer
- Laser vision measurement systems: OGP, Oasis
- 8 Optical Comparators
- Material analyzer Nikon

### GLOBAL SUPPLY CHAIN

- Fully managed global and domestic value-added supply chains

## CHINA

### CNC TURNING W/OFF-LINE CAD/CAM PROGRAMMING SOFTWARE

- 25 CNC slant bed lathes 2 axis
- 4 CNC flat bed lathe 2 axis
- 7 Swiss CNC lathes: Tsugami, Star
- 5 CNC Gang Tool lathes 2 axis

### CNC MACHINING CENTERS W/OFF-LINE CAD/CAM PROGRAMMING SOFTWARE

- 1 CNC Vertical Machining Center VDL-800 mm
- 2 CNC Vertical Machining Center VX400 mm w/4th Axis
- 2 CNC Vertical Machining Center VF-3 Haas
- 3 CNC Vertical Machining Center VF-4 Haas (Two of the devices have 4th Axis)
- 1 CNC Horizontal Machining Centre NHP5550

### GRINDING

- 1 CNC Cylindrical Grinder
- 1 Surface Grinding Machine

### WIRE ELECTRICAL DISCHARGE MACHINING W/OFF-LINE CAD/CAM PROGRAMMING SOFTWARE

- 2 Wire EDM

### SPECIALTY PARTS CLEANING EQUIPMENT

- 1 Ultrasonic Cleaning Machine

### WICKMAN MULTI-SPINDLE SCREW MACHINES

- 2 Multi-spindle screw machines 1" bar capacity with high pressure oil

### BONDED WAREHOUSING SUPPORT EQUIPMENT

- 5 Automatic Horizontal cut off saw
- 1 Drill presses
- 5 Bench grinders
- 5 Sanders
- 1 Hand screw lathes
- 1 Laser marking
- 2 Six-axis joint robot
- 2 Tapping machines
- 2 Drilling and tapping machines

### DEBURRING AND FINISHING

- Vibratory finishing/burnishing
- Barrel finishing
- Sand blasting
- Passivating
- Specialty deburring
- Rust prevention coating

### MECHANICAL ASSEMBLY INSPECTION EQUIPMENT

- CMM Hexagon
- Optical comparator-Seven Ocean & Keyence

- Roughness checker
- Rockwell hardness tester
- Roundness tester
- Height gage
- Thread gage
- Caliper
- Micrometer
- Air gage
- Concentricity gage
- Full service inspection department
  - FAI, PPAP, APQP, C/A, & formal problem solving

### OUTSOURCING

- Plating
- Heat treating
- Painting
- Welding
- Forming
- Bending
- Machining
- Stamping
- Casting
- Anodizing

