

Ampex Metal Products - Facilities List 2018

Stamping Presses

- 1 - **Minster 600 Ton E2 High Speed straight Side punch press with 120" length bed. Link Die** Protection system, tonnage monitor, signature analysis, Minster 50-inch-wide Servo Feed, Minster straightener, Minster 20,000 pound uncoiler.
- 1 - AIDA 330 Ton PMX **High Speed straight Side punch press with "Link Motion". Die Protection** system, tonnage monitor, signature analysis, Vamco Quantum QS-30 Servo Feed, Dallas straightener, Dallas uncoiler, Dallas coil car, Dallas threading table and peeler.
- 1 - Minster 300 Ton E2 High Speed straight side punch press. Minster VMC Touch Screen Control, tonnage monitor, Cooper Weymouth Feed, Cooper Weymouth straightener, Cooper Weymouth uncoiler.
- 1 - Minster 300 Ton E2 High Speed straight Side punch press. Minster VMC Touch Screen Control, tonnage monitor, Vamco Quantum QS-30 Servo Feed, Cooper Weymouth straightener, Cooper Weymouth uncoiler.
- 1 - Minster 200 Ton E2 High Speed straight Side punch press. Link Die Protection system, tonnage monitor, signature analysis, Vamco CFS-20 Servo feed, Cooper Weymouth straightener, Cooper Weymouth uncoiler.
- 1 - Minster 150 Ton P2 High Speed straight Side punch press. Link Die Protection system, tonnage monitor, signature analysis, Vamco CFS-20 Servo feed, Cooper Weymouth straightener, Cooper Weymouth uncoiler.
- 1 - Bliss 110 Ton High Speed straight Side punch press. Link Die Protection system, Vamco CFS 14 Servo feed, Cooper Weymouth straightener, Cooper Weymouth hydraulic uncoiler.
- 1 - Minster 100 Ton P2 high speed straight side punch press. Minster VMC touch screen control, Vamco CFS 14 Servo Feed, Litel straightener, Cooper Weymouth pallet uncoiler.
- 2 - Minster 75 Ton High Speed punch press, Link Die Protection system, Vamco CFS 14 Servo feed, Cooper Weymouth pallet uncoiler.
- 1 - Minster 70 Ton P2-60 straight side press with Minster servo feed and die protection.
- 1 - Minster 65 Ton High Speed punch press, Link Die Protection system, Vamco CFS 14 Servo feed, Cooper Weymouth pallet uncoiler.

2 - Minster 45 Ton High Speed punch press, Link Die Protection system, Vamco CFS 6 Servo feed, Cooper Weymouth pallet uncoiler.

1 - Minster 32 Ton High Speed punch press, Link Die Protection system, Vamco CFS 6 Servo feed, Cooper Weymouth pallet uncoiler.

1 - Minster 22 Ton High Speed punch press, Link Die Protection system, Vamco CFS 6 servo feed, motorized uncoiler.

1 - Bliss 660 punch press, air clutch/brake, **60 tons, 2.5" stroke, 10 x 19 ram**

Slide Forming Machines

These machines are capable of forming wire (square and round) and flat strip material. Wire forming capability up to 0.3125 diameter and flat strip up to 0.125 thick and up to 5.00 inches wide!

1 - Nilson S-00 Four Slide with Die Protection system and motorized uncoiler.

1 - Nilson S-0 Four Slide with Die Protection system

1 - Nilson S-0-F Four Slide with Die Protection system and motorized uncoiler.

2 - Nilson S-1 Four Slide with Die Protection system and motorized uncoiler.

20 - Nilson S-1-F Four Slide with Die Protection system and motorized uncoiler.

2 - Nilson S-2 Four Slide with Force Monitor system, Die Protection system and motorized uncoiler.

2 - Nilson S-2-F Four Slide with Die Protection system and motorized uncoiler.

7 - Nilson S-3-F Four Slide with Die Protection system and motorized uncoiler.

2 - Nilson S-4-F Four Slide with Die Protection system and motorized uncoiler.

2 - Nilson S-4-T Four Slide with Die Protection system and motorized uncoiler.

- (75 Ton forming capability and extra wide material capacity)

1 - Nilson #5, Airclutch, Die Protection system, motorized un-coiler.

1 - US Baird # 33 Multislide with Die Protection system and motorized uncoiler.

3 - US Baird # 28 Multislide with Die Protection system, motorized uncoiler and hopper feeders.

1 - Baird #1, manual clutch, solid cams, single overhead motion

1 - **Baird #2, manual clutch, split cams, "H" head, double overhead 2-split cams, 1 press attachment**

3 - Baird 3-24s, 2 manual clutch, 1 air brake, 1- solid cams, 2- split cams, 1 press attachment

2 - Baird #5s, 1 manual clutch, 1 electric clutch/brake, 1 solid and fixed (keyed) cams, 1 split cams, 1 press attachment

Spring & Wireform Machines

- 1 - U.S. Baird Model C-150 CNC Spring Coiler -Wire diameter .0032 – 0.125, maximum tensile of 350,000 PSI.
- 1 - J.M. Systems In-line Convection stress relieve oven.
- 1 - Model U.S.B Motorized coil payoff.
- 1 - Minyu Model SF-1220 12 Axis CNC Wire forming machine – U.S. Baird control and De-coiler.
- 1 - Minyu Model SF-1240 12 Axis CNC Wire forming machine- U.S. Baird control and De-Coiler

CNC Machining Equipment

- 1 - Tornos Deco 10A, 9 axis with automatic bar feeder
- 1 - Mazak Vertical Machining center with pallet changer

Welding Equipment

- 3 - Taylor Winfield Resistance welders
- 1 - ABB IRC5 high speed robotic mig welder, multiple fixture turntable, Miller welder, Robotware 5 and Robot Studio online software.
- 1 - Weld Systems Integrators resistance welder – 75 KVA with Miyachi control (AC control)
- 1 - Lora 20 KVA butt welder for wire formed parts
- 1 - Federal Resistance Welder
- 1 - Hobart manual mig welder
- 1 - Miller manual mig welder
- 1 - Lincoln manual mig welder
- 1 - Tig Welder

Part Finishing Equipment

- 2 - Sweeco vibratory de-burring machines
- 2 - Benchtop vibratory de-burring machines
- 3 - Part on part tumbler/drum style de-burring machines
- 1 - Bead blast cabinet
- 1 - Shot blast machine
- 2 - Part washers/cleaning tanks with spin dryers

Engineering / Design

All tooling (slide Forming, Progressive Die, Assembly Dies and gauges are designed using State-of-the-Art Computer Aided methods. This provides faster and more accurate designs. This data is converted to machining code for our Wire EDM, VMC/CNC machining use with less chance for error. CAD workstations: 3 Pentium-4 **Windows XP w/ Dual 19" LCD Monitors and Digitizers.**

Tool Room

We maintain our own Toolroom to provide Dies that are precision built to insure maximum production efficiency at the lowest possible cost.

Dies for various operations are engineered and built so they will have the necessary accuracy to meet **our customers' production and quality requirements. By maintaining** our own toolroom we are assured to have QUALITY built into our process starting from the design stages.

Our Toolroom and Wire EDM room are both climate controlled to assure accuracy during tool build by minimizing temperature variation.

When Ampex builds you a tool, we will both guarantee and maintain it for the life of your part. You WILL NOT be asked for additional tooling dollars.

- 1 - Mitsubishi FA-20 Wire EDM
- 1 - Mitsubishi FA-20V Wire EDM
- 2 - System 3R wire EDM quick-change fixtures
- 1 - **Vertical machining center (VMC) Hurco VMX 64 30" x 34" x 64" travel. 32-tool changer, dual screen control**
- 2 - ACER 40 taper milling machines with Digital Read Out (DRO)
- 1 - Bridgeport milling machines / with DRO
- 1 - Chevalier 618 Wet Grinder with Walker chuck and Sony DRO
- 1 - Chevalier hydraulic wet grinder – **1640 16"x 40" travel, Sony DRO**
- 4 - **Chevalier 618 Surface grinders with Walker chucks and Sony DRO's**
- 75 50 taper collet chucks with various metal cutting tooling (Sanvik, Kennmetal, Fette, etc.)
- Misc. grinding fixtures (Harig, magnetic sine plates, etc.)
- 1 - CNC Mill South Western Industries 40 Taper
- 1 - 10 Ton Crane traveling complete toolroom area
- 1 - Boyer Shultz Surface Grinder
- 1 - Flex-Arm Air taping machine
- 1 - Hocket 5 Foot Power Radial Drill Press
- 1 - **W.F. Wells & Sons 9" Horizontal Saw**
- 1 - Powermatic Band Saw
- 1 - Lincoln Electric MIG Welder
- 1 - Allen Drill Press
- 1 - 5 Ton Arbor Press
- 1 - 20-Ton Arbor Press
- 1 - ACER lathe 1440G with Sony DRO
- 1 - Jet Drill Press
- 1 - Wall Grinder
- 1 - Belt Sander
- 1 - Covel 14 inch Optical Comparator
- 1 - **Mitutoyo 12" Digital Height Stand**
- 1 - U.S. Baird Tryout table (Tool Development)
- 7 - Granite Surface plates
- 1 - Cleveland milling machine, 9 x 48, Prototrak CNC control
- 2 - Surface grinders, 6 x 18, manual- Lee, automatic- Reid
- 1 - misc., Drill press, Lathe, Shaper, Bridgeport 9 x 42, Bandsaws, J & L comparator, inspection and sundry, kick presses (2), 10 HP Air compressor, light curtains-untested

Assembly Equipment

AMPEX has a separate plant dedicated to assembling parts manufactured by us. This saves our customers time and money by allowing sub-assemblies to go straight to their production lines.

- 2 - Minster 22-ton single hit punch press
 - 1 - Minster 65-ton single hit punch press
 - 1 - Bliss 50-ton single hit punch press
 - 1 - Johnson 60-ton single hit punch press
 - 1 - Bliss 45-ton single hit punch press
 - 1 - Minster 45-ton single hit punch press
 - 2 - High output automatic tapping machines with vibratory bowl feeders
 - 1 - Riveting machine
 - 1 - Orbital Riveting Machine
 - 1 - Niagara **#2, single stroke, manual clutch, 18 tons, 4.5" shut hot**
 - 1 - **NIKO, air blender, 5/8th's round**
- Miscellaneous air and hydraulic machines for assembly

Quality Assurance

Ampex adheres to the ISO 9001:2001 Certified Quality Management System. We also practice statistical process control (SPC) using Datalyzer Spectrum software operating on a network of 1 hub and 3 satellites deployed throughout our facility.

- 1 - Wenzel LH87 CNC CMM 800 x 1000 x 700 Travel, OPENDIMIS software, TP200 Renishaw probe
 - 1 - Starrett HB-400 CNC Optical Comparator with Quadra Check 4000 software
 - 1 - Starrett HB-400 Optical Comparator with Quadra Check 2000 software
 - 3 - **14" Microview Optical Comparators with Q16 Control**
 - 1 - Wilson and Fowler Hardness tester
 - 1 - Brown & Sharp Digit-Hite Plus 0-25 Digital Height Stand
 - 3 - Brown & Sharp 0-6 inch Digital Height Stand
 - 1 - Dial Torque wrench tester 0-250 lbs.
 - 1 - Fowler surface finish tester
 - 12 - Mitutoyo 0-6 inch digital calipers
 - 1 - Mitutoyo 0-12 inch digital caliper
 - 1 - Mitutoyo 0-24 inch digital caliper
 - 1 - **Kodak Comparator, 14", Accurite geometric DRO**
- Miscellaneous pin gages, gage blocks, micrometers, custom gages etc.

Other Capabilities

- EDI (Electronic Data Interchange) capable
- ANSI compliant bar code labeling
- Kanban Production/inventory/shipping system
- Prototyping capabilities
- Product engineering and design assistance
- Outside Services: Heat treating, Plating, Coating, Salt Spray Testing etc.
- PPAP Quality Documentation