

# ROPER WHITNEY



## Folding Machine

QUOTE

Model AB1016 Folding Machine

5/7/2015



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**ROPER WHITNEY**  has been producing quality folding systems for a variety of markets. Building on that experience, the Autobrake integrates advanced design with the features that have made the Autobrake the choice of professionals.

The Autobrake combines automated bending of angles up to 145 degrees, material clamping, and material support into a single CNC controlled system employing wing bending techniques.

Manufacturing, service, and applications support are based in Rockford, IL U.S.A.

Benefits of the Autobrake system vs. manual or press brake bending are:

- Reduced labor costs
- Improved part accuracy
- Reduced setup time
- Minimized tool changes
- Improved part quality especially on soft and pre-painted material



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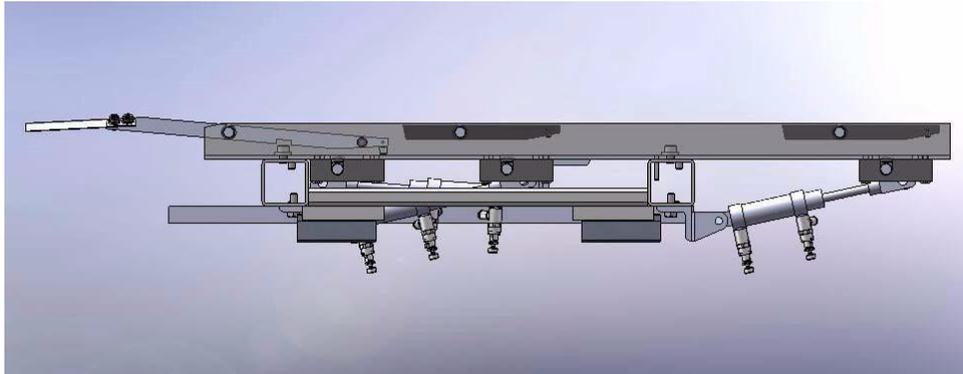


## SYSTEM FEATURES

### **INTEGRATED SHEET SUPPORT AND MATERIAL POSITIONING:**

Work pieces are fully supported by the back gauge table beneath the clamping jaw, and automatically positioned to an accuracy of  $\pm .004$ ". The back gauge is positioned using a ball screw and is driven by a servo motor for low noise operation. The servo motor automatically recovers from back gauge displacements as high as .625 inches.

Nine conveniently spaced fingers provide positive contact with the sheet edge at all times and the fingers will travel down to 0.0" position. Maximum back gauge travel can be reached in less than 3 seconds using a three stage design combining high speed with compact space requirements. The operation of the pop-up back gauge fingers is controlled pneumatically. Air supplied to the back gauge fingers must be clean and filtered with an operating pressure of 80-100 psi. The back gauge is capable supporting sheets up to 700lb. (318kg). The standard backgauge depth is 40" with optional 61" and 122" depths.



### **AUTOMATIC DUAL CLAMPING SYSTEM:**

Clamping pressure exerted by the upper jaw is variable to accommodate a wide variety of materials, thicknesses and finishes. Programmable clamping and hemming pressures are CNC controlled so no tool change is required to create open, closed, or tear drop hems. The position of the upper beam is measured by a closed loop circuit for improved forming of hems and the open height can be programmed for easy part handling.

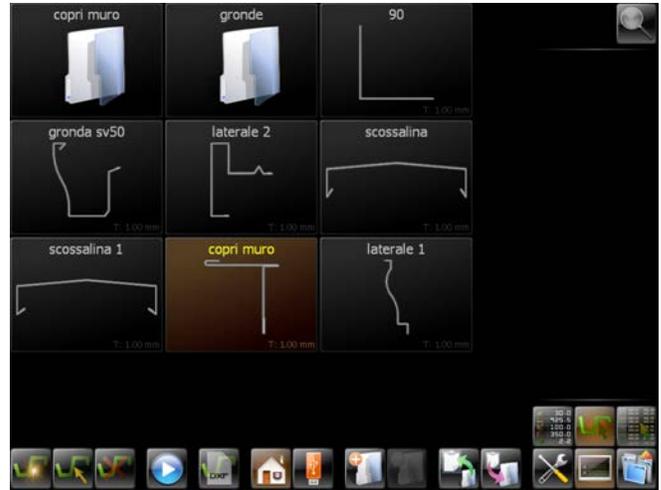


## ECS 904 CNC CONTROL SYSTEM:

The ECS 904 system enhances the skills of the sheet metal fabricator by providing the means to quickly transfer the operator's knowledge into useful part programs.

Windows-based software is combined with a powerful machine controller, specifically designed for the Autobrake. This system delivers a high powered stable solution for all folding needs.

The ECS 904 software comes packaged within an Intel® Pentium® computer combined with a 15" flat panel display for high speed system response, and easy viewing of the operator interface. The computer system is pre-configured for connection to an inter-office network.



The computer is housed within a sealed oil-tight enclosure to prevent dust and water contamination. The front of the enclosure hinges open with the computer attached, giving access to the USB, serial, and network connections.

### Computer specifications are:

- 15" high resolution anti-glare flat panel touch screen
- Integrated industrial computer with internal air cooling
- Intel Pentium-M 1.6 gigahertz processor or greater
- 512 megabytes of RAM memory
- 64 megabytes of video RAM
- 40.0 gigabyte hard drive
- RS232 serial ports
- Ethernet ready
- USB 2.0 ports
- Sealed oil-tight enclosure
- Windows XP-Pro operating system

The ECS Control integrates the operation of the positioning gauge, bending leaf, and clamping mechanisms, and has the capability to store over one million part programs.



## **PROGRAMMING FEATURES:**

The ECS 904 system provides greater flexibility to the operator with fewer keystrokes, resulting in a user interface that is easy to learn, and increases productivity.

Creation of part programs can be done by text entry in the main operations screen, or part profiles can be drawn and converted into programs. Both part programs and drawings can be stored on the computer's hard drive for future use. Part profile drawings are created in vector format, allowing the part to change its shape and size dynamically as bend angles and line lengths are altered. Parts can then be visually verified as correct prior to creating the part program. Bends can be inserted, deleted, or altered as the operator desires. Therefore, stored profiles can be changed into other types of shapes on demand. Hem and radius macros can also be used to create architectural shapes, or other curved forms.

Part programs and drawings are stored and accessed from the memory using a flexible Windows based file handling system. Programs can be stored in any number of directories for easy organization according to any factors desired, such as: customer name, product name, part type, etc. Program file names can be any combination of letters or numbers, allowing programs to be identified by part form, company part number, or any other criteria desired. Programs created using the drawing portion of the Titan system show a small picture of the part for quick program identification. Incorporated into the file system is a quick search tool that allows programs to be displayed by key portions of their names. This limits the selections displayed, and speeds program access for the operator.

The control system includes several backup features. The setup parameters that control the operation of the Autobrake can be stored at any time to a file name. These settings can then be retrieved as needed to maintain correct machine performance. This provides a fast secure method to reestablish the parameter settings due to any disruption. Once per month the operator is reminded to make a complete backup of the ECS software system. This backup stores all of the critical system settings, part programs, and part profile drawings present in the Titan operation directory. Each backup made is stored separate from the next, providing a history that can be accessed if needed, and preserving the operator's part programs. Backups are placed in a USB flash drive connected to the computer control head, or may be directed to another drive; either local or network.

### **Programming Functions are:**

- Bend angle
- Gauging distance
- Offsets for hem operations
- Programmable delay for back gauge
- Open, closed, or teardrop hemming
- Open hem height
- Clamping force
- Jaw opening
- Automatic Sequencing
- Radius profile macro
- Customer alpha/numeric part number
- Information screen for entering of part related data
- Material handling instructions
- Programmable part counter
- DXF Capability
- Spring back compensation



## **CONSTRUCTION:**

The Autobrake is a plate and weldment steel construction, delivering superior performance and features in a simplified rigid design. End housings are a plate-type construction bringing drive components close together for improved stiffness and performance. Actuating mechanisms are secured in rigid mounts at the outside of the housings, allowing easy maintenance.

Clamping and hemming are programmed. The upper beam is driven to programmed settings on both ends by a brake motor and eccentric drive of the beam with a connecting shaft. Clamping and hemming power is delivered to the clamp jaws by a series of spring washers to provide variable clamping pressures with a shock-absorbing end stop. This provides reliable clamping pressure regardless of material thickness. Integral to the upper beam are the ways with non-metallic gibling to guide and retain the upper beam within the end housings.

The folding beam consists of a thick plate for maximum resistance to bending forces with a machined seat to receive the standard .787" (20mm), the thin .390" (10mm) or .250" (7mm) bending blade. A micrometer nut setting allows adjustment for large variations in material thickness. Actuating members rotate the bending beam into position from both ends of the machine, using a variable speed drive (VSD) for accurate control over programmed bend angles. Mechanisms are mounted within reinforced connections for improved performance.

The lower beam is a welded reinforced structure fabricated of thick steel keyed into the end housings. The lower beam is pinned in place, and coupled to the end housings for improved rigidity. The advanced design of this beam delivers superior hemming results.

Access to the Autobrake's electrical system is located at the right-hand portion of the machine through a quick-lock enclosure. This enclosure houses the power and control devices that drive the machine, and extends behind the right-hand cover for reduced machine length.

## **CROWNING SYSTEM:**

The system provides a quick easy method for adjusting the center crown of the bending tooling to improve bend accuracy, and adjust the work material straightness when forming radius bends. The system is manually adjusted, and locked in place by the operator.





## Optional Features and Accessories

### **OPTIONAL LASER SCANNING SYSTEM:**

An optional laser scanning system can be mounted to the machine to provide additional protection to the operator during clamping of the work material. This system includes a programmable scanning device, mounting brackets, safety relay, and mating cables.

This system is mounted along the lower portion of the machine legs, and scans for interrupts in its sensing field. The field shape is programmed into the scanner, and covers the length of the machine between the legs. The field is composed of two areas: a warning zone and a safety zone.

The warning zone is projected outside of the safety zone, and a warning light is illuminated whenever an object enters this zone. However, the clamping function of the machine is allowed to proceed. When an object enters the safety zone, the first stage clamping of the upper beam is halted until the object is withdrawn from the safety zone. Once the upper beam completes the first stage clamping, the laser scanning system is disabled, allowing the work material to be clamped and formed. The scanning system is restored once the upper beam is raised above the .250" opening position.



## SPECIFICATIONS

|  | <b>U.S. Standard</b> | <b>Metric</b> |
|--|----------------------|---------------|
| Maximum Bending Length                   | 122"                 | 3100mm        |
| Rated Bending Capacity, Mild Steel       | 16 gauge             | 1.5mm         |
| Backgauge Weight Capacity                | 700 lbs.             | 318 kg        |
| Backgauge Travel                         | 40"                  | 1000mm        |
| Working Height                           | 35"                  | 889mm         |
| Open Height                              | 4.5"                 | 114mm         |
| Bending Beam Adjustment                  | 2.0"                 | 50mm          |
| Kombi clamping beam with 4" Tall Tooling |                      |               |
| Motors:                                  |                      |               |
| Clamping Beam                            | 1.5 HP               | 1.1 kw        |
| Bending Beam                             | 1.5 HP               | 1.1 kw        |
| System Weight                            | 6,202 lb.            | 2,819 kg.     |
| Shipping Weight                          | 6,622 lb.            | 3,010 kg.     |
|  |                      |               |
| Electrical - Voltage Required*           | 230/3/60             |               |
| Maximum Current Draw                     | 5 amps               |               |
| Service Required                         | 15 amp               |               |
| Incoming Wire Gauge                      | 14 gauge             |               |

\*An R3 rotary type phase converter is required when connecting to single phase power.

### Standard Tooling Included:

- .787" (20mm) bending bar x 122" (3100mm)
- .390" (10mm) bending bar x 122" (3100mm)
- .250 (7mm) bending bar x 122" (3100mm)
- lower clamping jaw x 122" (3100mm)
- 30° upper clamping jaw x 122" (3100mm)



## PRICING

|                                      |                |
|--------------------------------------|----------------|
| Price F.O.B. Rockford, IL            | \$64,500*      |
| Delivery                             | 10 to 12 weeks |
| Warranty (Limited Warranty attached) | 3 Year         |
| Start-up and Training                | \$3,000        |

## OPTIONS

|  |          |
|--|----------|
| Upgrade to 61" Backgauge (1550mm)        | \$7,000  |
| Safety and Operation Options:            |          |
| Laser Scanning System                    | \$8,200  |
| Optional Hardened Tooling                | \$5,000  |
| Kombi Clamping Beam with 4" Tall Tooling | \$25,500 |
|  |          |
|  |          |

Terms: 35% Down Payment with Order  
55% Prior to Shipment  
10% at Time of Installation and Training

Quotation valid for 30 days

Prices are quoted F.O.B. our factory, Rockford Illinois and are subject to change without notice. We constantly strive to improve the quality, performance and value of our machinery and machinery specification may be amended at any time without notice.

**Roper Whitney machinery is U.S. made and is backed by a 3-year limited warranty.**



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### 3 YEAR LIMITED WARRANTY

Roper Whitney ("Manufacturer") warrants, commencing with the date of shipment to first end-user ("Customer") and for a period of thirty-six (36) months thereafter, all machinery and parts manufactured by Manufacturer to be free of defects in workmanship and material. **This warranty remains in force for the above time period only if all of Manufacturer's operational procedures are followed and recommended maintenance is performed.** If, within such warranty period, any machinery or parts manufactured by Manufacturer shall be proved to Manufacturer's satisfaction to be defective, such machinery or parts shall be repaired or replaced, at Manufacturer's option. All warranty claims are made F.O.B Manufacturer's plant, providing such machinery or parts are returned freight prepaid to Manufacturer's plant or designated service center for Manufacturer's inspection. All failed parts or components must be returned to Manufacturer prepaid for inspection before credit will be issued for new parts or components. Manufacturer's obligation hereunder shall be confined to such repair or replacement and does not include any charges, direct or indirect, for removing or replacing defective machinery or parts. No warranty shall apply to machinery, or parts or accessories, which have been furnished, repaired, or altered by others so as, in Manufacturer's judgment, to affect the same adversely or which shall have been subject to negligence, accident or improper care, installation, maintenance, storage, or other than normal use or service, during or after shipment. No warranty shall apply to the cost of repairs made or attempted outside of Manufacturer's plant or designated service center without Manufacturer's authorization. No warranty shall apply with respect to machinery or part not manufactured by Manufacturer, including but not limited to motors, accessories, electrical and hydraulic components, if such machinery or part is subject to warranty by the manufacturer of such machinery or part. No warranty claims by Customer will be honored with respect to any machinery or part from which the name and date plate has been removed or is otherwise no longer located or exhibited on such machinery or part. **THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. MANUFACTURER SHALL NOT BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES WHATSOEVER WITH RESPECT TO MACHINERY, PARTS, ACCESSORIES, OR SERVICES MANUFACTURED OR FURNISHED BY IT OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGES, EXPENSES, LOSSES, OR DELAYS HOW SO EVER CAUSED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.**

**Note: Consumable tooling is not covered under the 3 year manufacturer's warranty.**

RETURN OF THE PRODUCT REGISTRATION CARD FURNISHED WITH THE PRODUCT IS NECESSARY TO OBTAIN WARRANTY COVERAGE THEREON. CARD MUST BE FULLY COMPLETED, SIGNED BY THE PURCHASER, AND IF APPLICABLE, SIGNED BY THE DISTRIBUTOR. RETURN REGISTRATION CARD TO:

**ROPER WHITNEY** 

2833 Huffman Blvd.  
Rockford, IL 61103

Phone: (815) 962-3011

Fax: (815) 962-2227

[www.roperwhitney.com](http://www.roperwhitney.com)

Email: [info@roperwhitney.com](mailto:info@roperwhitney.com)



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