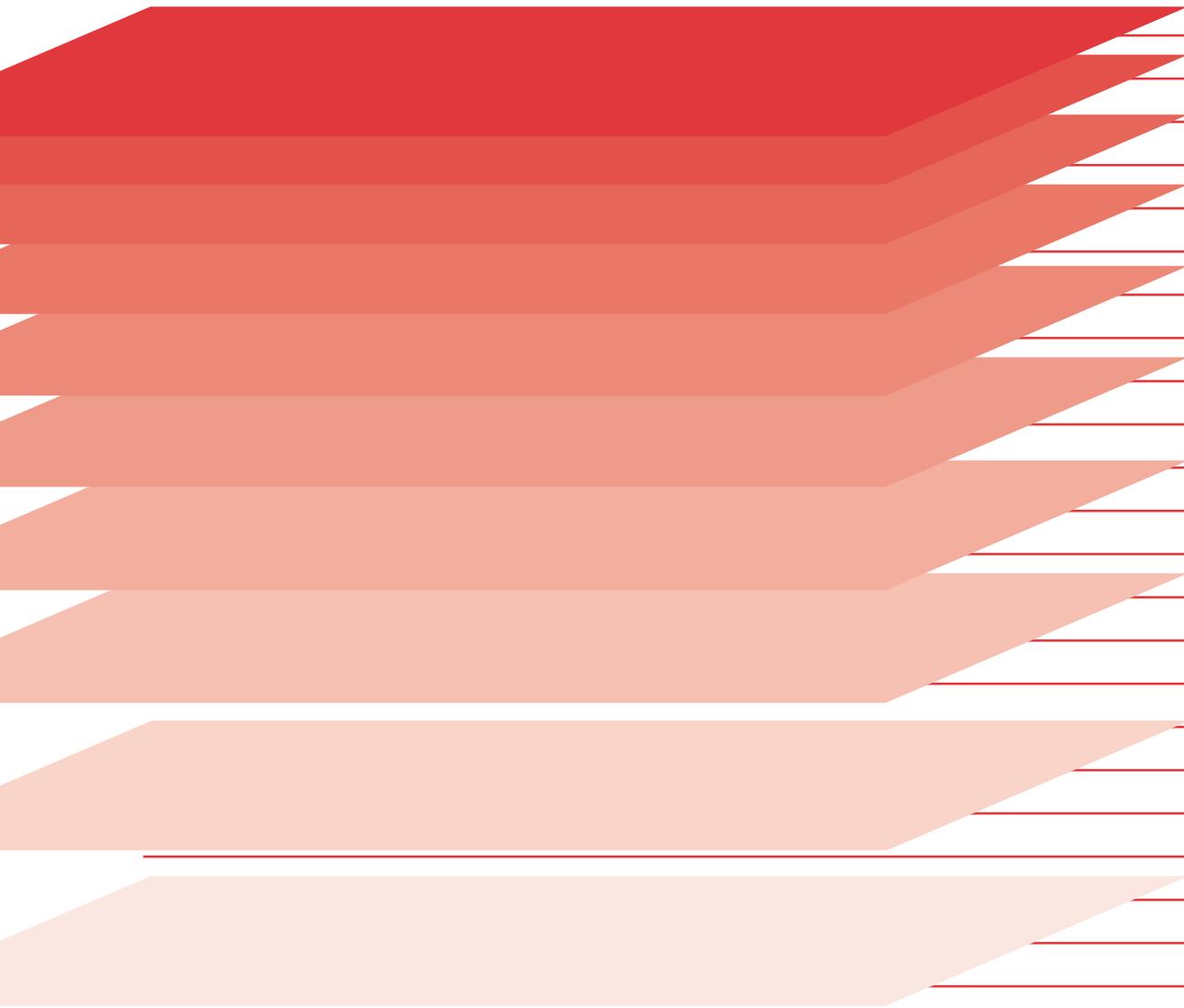


**UNION TOOL
AUTOMATIC
HANDLING
EQUIPMENT**

For Panel,
Sheet and
Plate Materials



The Union Tool Corporation



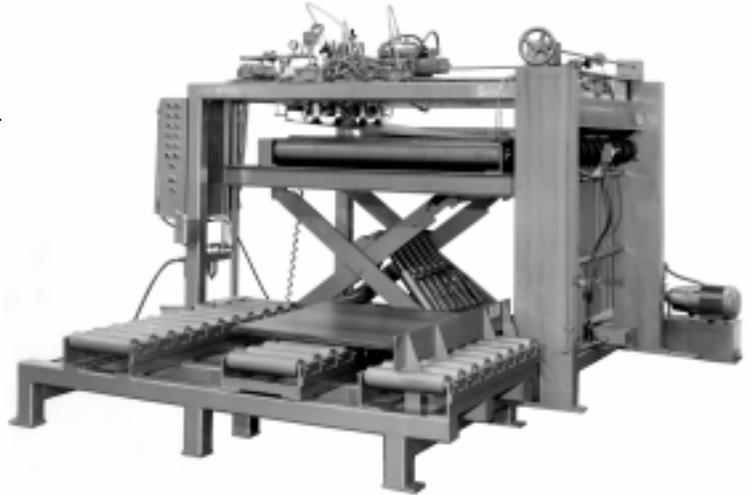
CUSTOM DESIGNED MATERIAL HANDLING EQUIPMENT

AUTOMATIC FEEDER

Increase your production and profits with the Automatic Feeder. It's custom designed to automatically feed all types of panel, sheet and plate materials onto its own built-in conveyor. Stacks are placed on a pre-load conveyor, then transported to a lift table where vacuum cups carefully lift each panel to a predetermined height that is automatically controlled by a Programmable Controller. The lift then pushes boards into feed rolls. When stack is depleted, lift table automatically lowers to accept new stack already placed on the pre-load conveyor.

SPECIFICATIONS

BOARD SIZES	18" - 60" width 36" - 78" length
LIFT CAPACITY	12,000 lbs.
PROGRAMMABLE CONTROLLER	0 - 15 cycles/min.
CONVEYOR SPEEDS	0 - 30 l.f.p.m.



AUTOMATIC PRESS BLANK FEEDER-COATER

The Automatic Press Blank Feeder is specifically designed to automatically feed, coat and place circular blanks directly into die area. Built-in programmable microprocessor allows for preprogramming of individual specifications. As blanks are rolled onto lift, magnetic sheet separators ensure single sheet feeding. Vacuum cups raise top blank then transfer it to built-in conveyor to be fed into Roller Coater for coating. Coated blank then moves to die area.

SPECIFICATIONS

BOARD SIZES	14" - 21" diameter
LIFT CAPACITY	1,500 lbs.
PROGRAMMABLE CONTROLLER	0 - 12 cycles/min.
CONVEYOR SPEEDS	0 - 30 l.f.p.m.



VACUUM FEEDER

Feed metal sheets faster and more efficiently with Union Tool's Vacuum Feeder. Stacks are placed on a built-in lift table. A Programmable Controller lifts sheets to a predetermined height. As the table is rising, built-in magnetic sheet fanners separate each sheet for efficient single sheet feeding. Vacuum cups lift each sheet while a horizontal cylinder moves it to a predetermined point above the conveyor. The vacuum releases the panel and the cycle is repeated. Once the stack is depleted, the lift table descends to its original position to accept a new stack.

SPECIFICATIONS

BOARD SIZES	8" - 36" width 22" - 30" length
LIFT CAPACITY	2,000 lbs.
PROGRAMMABLE CONTROLLER	0 - 15 cycles/min.
CONVEYOR SPEEDS	0 - 30 l.f.p.m.



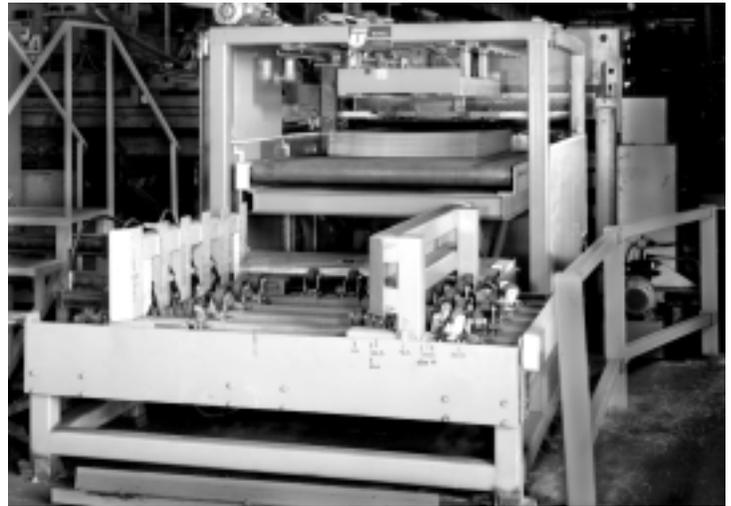
SHEET METAL FEEDER

A water heater manufacturer, looking for ways to reduce manual labor costs and improve operator safety, found Union Tool's automatic Sheet Metal Feeder to be the cost-saving machine they needed for their operations.

Previously, their non-automated procedure involved the laborious hand feeding of sheet metal into the forming and welding machinery. Two operators were required—one to physically position the steel sheets to enter the roll forming operation, and another to monitor the forming/welding equipment. Along with these added labor costs, the manual lifting/positioning procedure was a heavy job, frequently resulting in slower production, some downtime, and shoulder and back problems for the feeding operator.

After incorporating Union Tool's Sheet Metal Feeder into their operations, this manufacturer noticed a dramatic increase in productivity, substantial savings in manpower hours, and improved operator safety.

The automated Sheet Metal Feeding System is a multi-functional piece of equipment custom designed to roll a flat piece of steel into the desired cylindrical shape and transfer the rolled sheet to a welding station where the edges of the water heater body are welded together. It can accommodate two 150-sheet stacks of steel, each weighing approximately 10,000 pounds. Sheets from the



first stack are automatically fed into the forming machine, while the second, or waiting stack of steel, is moved into feed position and self-aligns for precise entry into the rolling station. As soon as the first stack is depleted, the programmable controller awaits the signal from the roll forming machine and the cycle is repeated.

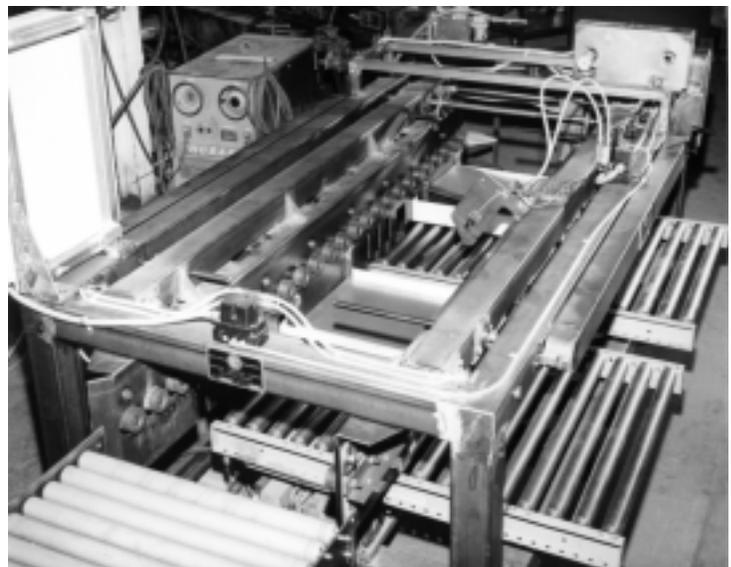
In addition to the Sheet Metal Feeder's capabilities to increase productivity and reduce labor costs, this manufacturer was also impressed by its simple design and construction which offers much easier maintenance than similar equipment from other suppliers. What's more, its cost was considerably less—*almost one-third as much as competitive models!*

DROP LEAF STACKER

A manufacturer of sensitized sheets for the printing industry had to meet a critical requirement to automatically stack sheets of polished and coated aluminum in boxes ready for shipment.

Union Tool was able to easily meet this requirement with its customized Drop Leaf Stacker. Designed with two stacking areas, each area is capable of handling a maximum size sheet of 24" x 24". Rubber rolls horizontally slide out from each sheet to carefully and precisely place the sheet into a shipping container without marking or damaging the sheet. Once the count number for the size of box is reached, the first stacking area locks, a backstop is raised, and the sheets continue, uninterrupted, to the second stacking area. After the count is reached in the second stacking area, the next sheet reverts back to the first stacking area. Each sheet is cushioned by air, which is trapped in each box. Once the box is filled, it rolls down to an incline conveyor to the shipping area, ready to go.

This customer not only noticed dramatic cost savings from



increased production in the stacking area, but also derived tremendous compensation from the fact that virtually no damage was incurred throughout a day of production using this innovative process from Union Tool.



APPLICATIONS

LAMINATING SYSTEM

A large nameplate manufacturer required a complete system to laminate a thin protective film onto sheets of etched aluminum at the rate of 15 sheets per minute. A small space had to be maintained between each sheet to allow for the cutting of the film. Single sheet feeding and no marking of the sheets were top priorities.

Union Tool's engineers utilized a standard Swing Arm Feeder to pick up each sheet with small vacuum cups to gently lay the sheet onto a special conveyor. This conveyor was custom designed to use two drive systems to maintain proper spacing between each sheet prior to lamination.

The second drive system also powered the laminator. An edge guide system on the conveyor precisely aligned each sheet before it entered the pinch rolls of the laminator. The laminator, complete with two unwinds for top and bottom lamination, tension control, and film alignment, accurately coincided the edge of the sheet with the edge of the film. A double sheet detector was used at the point



of lamination to assure a single lamination each time. The entire system was controlled by a programmable controller to control all three pieces of equipment.

In just six months of operation, this customer has noticed a big boost in their production due to its continuous sheet feeding. Prior to using this system, the reject sheets accounted for more than 4% of production, but with Union Tool's Laminating System, less than 1/2 of 1% have been rejected due to damage of the etched sheets.

ELECTRICAL ENGINEERED CONTROLS

More than five decades of experience in providing electrical packages for custom built equipment allows Union Tool to offer the latest technology in electrical services.

Our complete electrical services include engineering, C.A.D. produced schematics, software/programming, and complete wiring and mounting of panels and control stations.

The Electrical Engineered Control system shown illustrates a completely organized pre-wired panel and control station created by Union Tool. Using your specifications, the latest technology in programmable controllers, motor controls and electronic hardware are incorporated to meet the specific requirements of your operation.

With our in-house C.A.D. system, wiring diagrams and logistic software of electrical controls can be printed out to support the hardware. In addition, our engineering staff is fully equipped to program new panels or debug problem panels.



From start to finish—and everything in between—let the electrical experts at Union Tool design or assist you with all your electrical interfacing needs.



CUSTOM DESIGNED MATERIAL HANDLING EQUIPMENT

AUTOMATIC PC STACKER

Stack up your savings with the Automatic PC Stacker. It's designed to stack all types of panel, sheet and plate materials. Instead of feeding the panels, a built-in conveyor automatically aligns and transports boards to a position under the adjustable vacuum head for careful pick up. Panels are carefully lifted by the outside edges to reduce the possibility of any contamination or surface damage. Horizontal cylinder transports raised board over lift. Vacuums gently release boards for neat, uniform stacking. Lift automatically indexes down while Programmable Controller repeats the cycle until stack is complete.

SPECIFICATIONS

BOARD SIZES	6" x 6" to 24" x 24"
LIFT CAPACITY	1,000 lbs.
PROGRAMMABLE CONTROLLER	0 - 15 cycles/min.
CONVEYOR SPEEDS	0 - 30 l.f.p.m.



SHELVING STACKER

Stacking single boards has never been easier! Single boards are brought into a pickup area by a belt conveyor. Vacuum cups then lift each board, placing it on a lift table which is in the "up" position for receiving the board. As boards are stacked, the lift table descends until the stack is completed. As the stack or stacks of boards are moved onto a chain conveyor, the lift table then returns to the "up" position and the cycle is repeated. A holding area is also available to hold the boards while the stack is being removed from the table for a continuous uninterrupted work flow.

SPECIFICATIONS

BOARD SIZES	4" to 18" width 3" to 18" length 3/8" to 1 1/2" thick
LIFT CAPACITY	4,000 lbs.
PROGRAMMABLE CONTROLLER	15 cycles/min.
CONVEYOR SPEEDS	50 - 150 l.f.p.m.



MUFFLER TRANSFER

The Muffler Transfer is custom designed to automatically transfer already formed parts from one machine to another. It combines vacuum and magnetic pick up for fast and efficient handling of a wide variety of shapes, diameters and lengths. Programmable Controller maintains its cycle.

SPECIFICATIONS

BOARD SIZES	6" x 6" to 24" x 24"
LIFT CAPACITY	1,000 lbs.
PROGRAMMABLE CONTROLLER	0 - 12 cycles/min.
CONVEYOR SPEEDS	0 - 30 l.f.p.m.





INCREASE PRODUCTIVITY & CUT COSTS

Since 1944, Union Tool has been providing customers with proven material handling solutions that significantly cut costs—*not corners*.

Our broad line of automatic feeders, stackers and other equipment has revolutionized the material handling industry. By automating your work flow, Union Tool's high performance equipment allows you to significantly reduce costs and the need for on-line personnel, while speeding up your production lines in a continuous, uninterrupted work flow.

Regardless of your current plan layout, we can streamline the way you move product through your plant to save you considerable time and money.

Custom-Built Equipment By A Professional Engineering Staff

Our staff of highly qualified engineers specialize in the design and application of high-efficiency, custom-built machinery. We work with you to develop a production system that best fits your

application. Our CAD System technology allows us to reduce the time and cost associated with new product development.

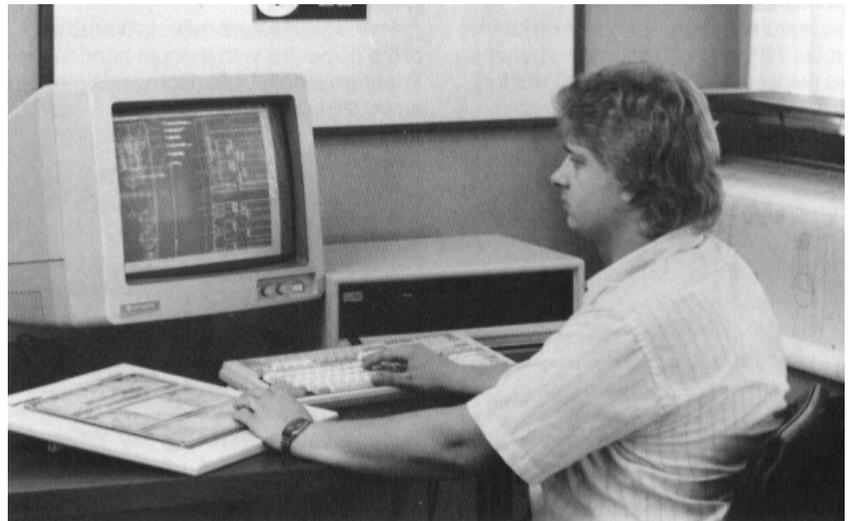
On-Site Start-Up

Our quality performance handling equipment comes with a one-year warranty on all parts and labor.

We offer complete on-site startup guidance to assist you in properly

installing and operating the machinery. Should any problems or questions arise, our staff is right there to solve them.

Our policy at Union Tool is to continually provide the extra services that make for very satisfied customers. Our job is to make your job easier by solving your production problems—and we're not satisfied until you are!



Union Tool's advanced computer-aided design systems accelerate new product development and plant layout engineering—resulting in lower costs, less time and greater accuracy.



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