

# APPLICATION PROFILE

## Automation Control For Plate Punch Bender Machines

### Advantages

- Cost reductions – Accurate control & monitoring of plate production prevents costly issues downstream of the printing process.
- Time savings – Increased diagnostics reduces troubleshooting and downtime, ensuring printer's deadlines are met.
- Key differentiators – Automation detects and controls punch benders for multiple plate sizes. Additionally, a configurable control system supports printer's needs for expansion or increased productivity.

*Printers utilize automation in prepress to increase profitability early in the process.*



*Photo courtesy of Acutech.*

### Overview

The printing plate is a key component to any offset printing process. To reproduce a full color image on the printing press, four individual printing plates are required. Taking flat plates and forming them to the contour of the lock-up on the press cylinder is a critical step in creating printing plates. Because installing the plate to the cylinder is the final step in the pre-press process, precise plate bending is essential to the deadline-driven newspaper and commercial printing industry. Two types of punch bender machines exist—edge and optical. Complexity can vary with stand-alone or in-line configurations, which incorporate handling conveyors and soration systems. Many existing plate benders rely on proprietary control systems consisting of custom-made boards and other components. While they served their purpose in the past, these systems are difficult to configure and maintain.

Industry demands for shorter deadlines and faster changeovers require a machine solution flexible enough for newspaper operations to change production parameters on the fly, yet reliable enough to ensure on time delivery of newspapers. Customers are searching for a machine that is smaller and easier to maintain and can handle multiple plate sizes. They are also looking for ways to address smaller production space and to receive on-site support staff. Poor quality can represent significant cost to the printer if the plates mounted to a press are not within quality standards (e.g. waste, additional labor, potential lost advertising revenue due to poor print quality).

To deliver the flexible control system for this new generation of plate benders, Rockwell Automation is a recognized leader in supplying control systems and is accepted and frequently specified by major end users around the globe. With Rockwell Automation control systems already controlling other applications within a printing facility (e.g. warehouse, pressroom, mail-room/ finishing operations), customers recognize the value of compatibility with open communication networks, spare parts, training, and integration to plant data collection systems.

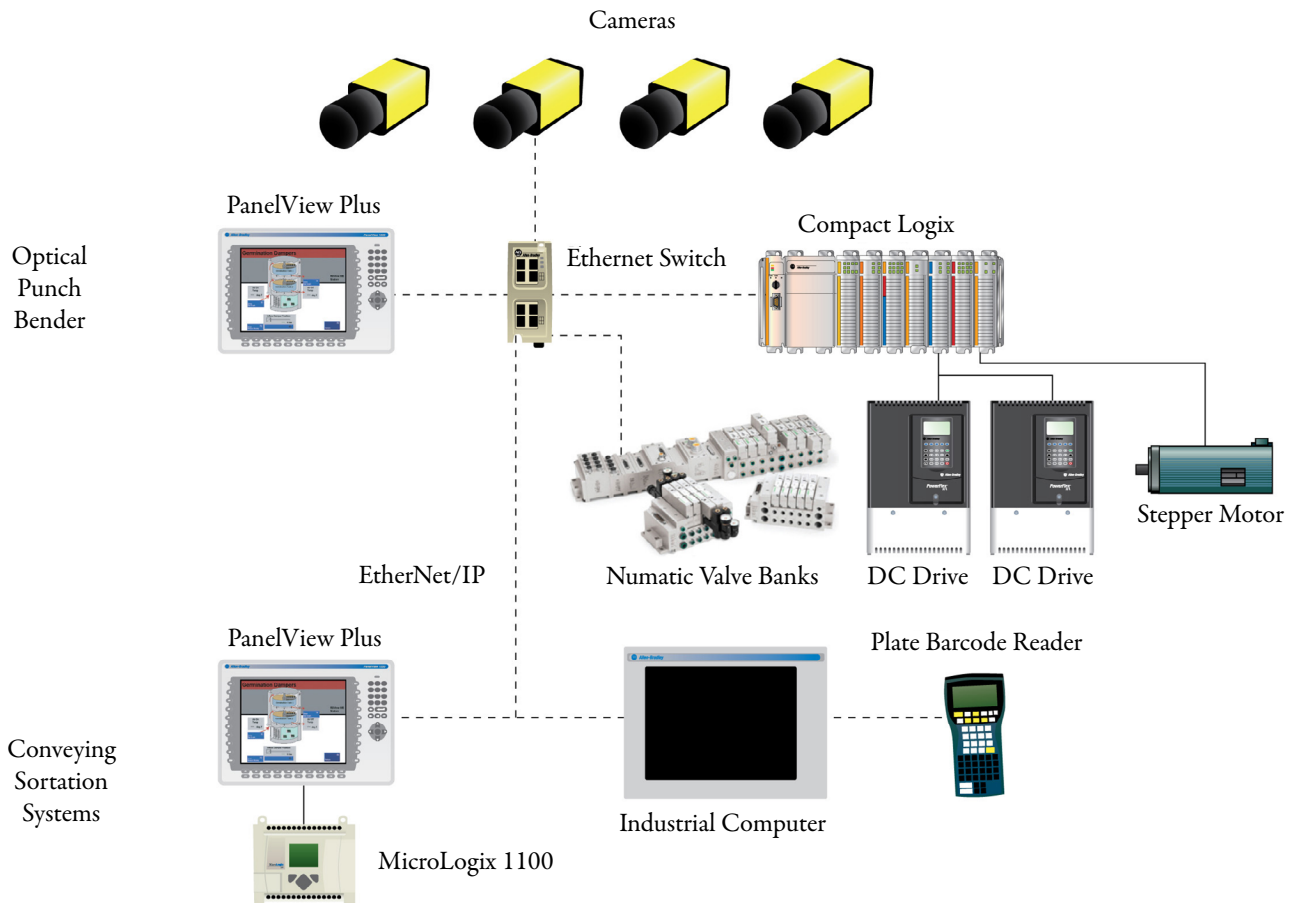
With the newspaper business moving toward more sophisticated conveyor and plate stacking, machines are now required to route plates from multiple Computer to Plate (CTP) engines to one bender or move plates from a production room to different floors within the building to the pressroom. Increasingly complex output demands require systems to have the flexibility to meet variable production needs.

## Solution

The solution is based around a CompactLogix™ processor that controls and communicates within the Punch Bender and Sortation Systems. Direct control of devices, like stepper motors, eliminates separate controllers, simplifies programming and reduces the overall panel space required for a machine.

Communication via Ethernet to EtherNet/IP devices, such as valve banks containing the remote inputs and outputs and cameras identifying register marks for precise plate punching and bending, provide several advantages. Easy integration of these components simplifies specific site configurations, serviceability and connectivity, so the prepress department operates in the most efficient manner and supports downstream operations.

The PanelView™ Plus HMI provides a consistent operator interface throughout the Punch Bender & Conveying Sortation System, thus eliminating special interface hardware and displays for third party cameras, valve banks and bar coding systems. The Rockwell Automation Integrated Architecture™ reduces programming time, improves information flow between systems and brings unmatched flexibility to the machine design. Data from these machines is collected and readily available for enterprise systems responsible for monitoring and improving overall factory efficiency.



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