

Ink Press Controls: CLASS I

Levers Remote Consoles

Effectiveness:

Both levers and remote consoles demonstrate about a 1/3rd reduction in make-ready waste in actual production environments compared to screw keys.

Cost Range:

Levers range from \$750-\$5000 per ink fountain depending on the vendor. QuickSet is currently at the bottom of the price range and sells more levers for existing presses than any other vendor.

Remote Console packages range from \$250,000-\$2,000,000 depending on the vendor.

Cost of Ownership:

Levers have almost no cost of ownership unless they are a cam-type lever (cam-type levers can wear out - and cost almost as much as new levers to replace). Most levers are fairly durable, and QuickSet levers will last the life of the press.

Remote consoles include servo-motors (or similar devices) at the ink fountain which require maintenance and replacement. The cost of ownership for remote consoles is 1-2 magnitudes higher than levers. Due to reliability concerns and replacement costs, some printers have actually replaced their servo-motor designs with QuickSet levers precisely due to this challenge.

How they work:

Levers allow one to "see" where their ink is set by referencing numbers on a guard (or on a face-plate located next to the lever handle).

Remote consoles show the numbers on the console.

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Ink Press Controls: CLASS II

Remote Consoles with CIP3 Remote Consoles w/CIP3 & Learning Algorithms

Effectiveness:

CIP3, for newspaper applications, gets the printers ink settings typically to about 60% of what is needed to allow taking keepers. This provides close to 50% reduction in make-ready waste compared to screw keys. When adding learning algorithms, the CIP3 ink settings waver between 60%-80% of what is needed to take keepers at start-up, which is slightly better, and typically allows a 50% reduction in make-ready waste compared to screw keys.

Cost Range:

Remote Console packages with CIP3 or CIP3 & Learning Algorithms range from \$300,000-\$2,500,000 depending on the vendor.

Cost of Ownership:

As with regular remote consoles, just the maintenance of servo-motors can be more costly than purchasing levers. The workflow systems necessary to maintain the CIP3 workflow often require significant manpower in pre-press. The costs can arise from the need to hire dedicated personnel or even the restructuring of the whole plant around the CIP3 requirements. These costs can be as high as the original system itself.

How they work:

CIP3 provides percentage figures based on a low-resolution image of the plate. Learning algorithms use the subjective adjustments made by the pressmen on recent jobs to adjust percentages. Subjective adjustments on moving reference points provides only limited improvements in accuracy, which is why a fluctuating accuracy between 60%-80% is seen in practice. Also, these adjustment mechanisms break down with high or low ink coverage values.

Ink Press Controls: CLASS III

Remote Consoles with "Closed-Loop" Scanning Technology

Effectiveness:

Closed-Loop systems typically provide a 65%-85% reduction in make-ready waste compared to screw keys.

Cost Range:

Closed-Loop systems cost anywhere from \$750,000-\$5,000,000 to implement depending on the vendor. These systems require on-the-web scanning equipment and interfacing control systems.

Cost of Ownership:

Cost of ownership on Closed-Loop systems is even greater compared to CIP3 systems, as the same infrastructure must be implemented for such a system to work, both in terms of hardware, dedicated personnel, and workflow restructuring. The reason the cost of ownership is even greater is due to the additional components, such as on-the-web scanners, that need periodic maintenance.

How they work:

After the press sheet cleans up, the on-the-web scanners read the printed color bars and provide feedback for small adjustments made via the servo-motors. Through a series of small adjustments, the ink densities are brought within acceptable ranges. To provide low waste, these systems usually require the ink settings be fairly close initially, so a pre-set of some fashion still needs to be sent. Even though these systems are reactive in nature, they can still provide better waste reduction than straight CIP3 or CIP3 with learning algorithms. While highly automated, the high relative cost to implement and maintain closed-loop systems makes such systems reasonable only for a small number of newspaper printers.

Ink Press Controls: CLASS IV

QuickSet Ink Pre-Setting Systems with Absolute Measurement Calibration

Effectiveness:

QuickSet Ink Pre-Setting Systems from QuickSet Corporation typically provide a 70%-90% reduction in make-ready waste compared to screw keys.

Cost Range:

The typical QuickSet system costs between \$35,000-\$45,000 to implement.

Cost of Ownership:

The cost of ownership for this system is negligible. Additional personnel are not needed, and the system fits into the existing work-flows and infrastructures. Costs are limited to such things as replacement toner cartridges for the included laser printer.

How they work:

Objective measurements made by densitometry on various printed targets provide a complete mapping of all the characteristics at each ink-key position on the press. The measurement captures both non-moving and moving reference points. This complete set of information is stored in the QuickSet computer. Before and during the measurement process, all repeatability issues for the style of press are dealt with. This could include ink-ball motor speed variances, water fluctuations, blade tension, non-linear levers, press running speed, or a host of other issues specific to the style of press. The system uses the actual image on the plate, and translates the coverage to values in accordance with the exact characteristics measured on the press. As soon as the press sheets clean up, the densities are already within established standards. This system does not need to react to provide correct settings (like a closed-loop system does), and so can provide even less waste.