

Impressive



As part of the Beiren Group, Shaanxi Beiren is the largest manufacturer of gravure printing presses in China. Their technological supremacy and high level of innovation has made Shaanxi Beiren an ideal partner for B&R. Gravure printing presses are used to print on many different materials, from the paper used to make cigarette packs to the bags our potato chips come in.



Electronic register control

Up to thirteen cylinders can be installed on a gravure printing press, each of which prints one color onto the end product. These printing cylinders used to be rigid and connected mechanically via a line shaft, but this design had considerable disadvantages. For example, the gears and shafts, as well as their resonance frequencies, resulted in speed being limited to approximately 250 m/min. Print quality was highly dependent on gear backlash and the gear's mechanical wear, while the flexibility for implementing customer wishes could only be achieved with a high degree of expense and effort.

Precision as the decisive factor

Shaanxi Beiren is now the first Chinese manufacturer to have put a machine on the market that doesn't have a line shaft. Mechanical gears have been replaced by electronic gears, and ETHERNET Powerlink™ is responsible for keeping the electronically-driven axes completely synchronized.

But why wasn't this step taken until

now? Up until now, European designs could not be implemented for economic reasons:

Traditionally, there have been two key requirements that were viewed separately for a printing press: movement/sequence control and what's known as register control, the process that adjusts the colors to one another down to the micrometer range.

These adjustments are so complex that they were always left to a specialized company to handle.

However, using two different manufacturers inevitably results in higher costs, different interfaces, different operating philosophies, etc.

The unique motion design provided by the ACOPOS series, the powerful System 2005 CPU series, and a tight control concept for the register control allowed B&R to solve both requirements using a single system.

For the manufacturer, this represents a considerable increase in machine performance and stability as well as quick responses to customer demands since e.g. gears can be configured with

software instead of having to be constructed.

Complex processes, simple implementation

Operating personnel will only have to concentrate on a monitor in the future. Since the double configuration of movement control and register control is no longer necessary, the operating comfort has improved considerably.

The effects of having a total solution provider as both a partner and a supplier can be seen not only in the individual machines, but more so in the entire product palette offered by ShaanXi BeiRen.

This allows different machines to be combined with the printing presses in any way for post-processing purposes (cross-cutters, trimmers, etc.). New functions are loaded to the main controller as modules, and any additional drive units are integrated directly into the Powerlink network.



“When we started cooperating with B&R China, it wasn't just the high-performance products that impressed us; it was also the outstanding support that B&R China provides. This excellent support puts B&R way out in front of other companies.”

Mr. He Peisu
Senior Engineer
Shaanxi Beiren Printing Machinery Co.,Ltd.