



Continuous Ink Jet
Baosheng Group
Case study

Baosheng Group uses Videojet coders to keep the cable rolling

Established in 1985, the Baosheng Group is China's largest and most competitive cable manufacturer. Listed in the Top 500 Enterprises of China, Baosheng employs some 3,000 people and enjoys sales reaching 8 billion yuan (approximately US \$1.27 billion).

Baosheng produces a wide variety of general-purpose power and communications cables and wires, as well as specialty cables for the mining and marine industries. Four production lines, each running at 10 meters per minute, 24 hours a day, enable the company to manufacture some 36 kilometers of cable every single day. Over the course of a year, that's enough cable to stretch from Taipei to Lisbon.

To meet its industrial coding requirements, Baosheng has been using more than forty early-generation continuous ink jet (CIJ) printers since 1998. Every meter of cable is marked with information such as the manufacturer's name, product model, cable specifications, measurement marks, date, voltage, CCC certification, equipment codes, and working shift.



“Character legibility and resistance to smudging and transfer when the cable is rolled onto spools is vital to our products meeting regulatory and customer needs as well as our own branding requirements. Additionally, the coding must withstand the friction of unwinding and installing the product.”

Ju ChaoRong, Director (Section Chief) of Technology Management
Baosheng Group



While the Videojet inks have always lived up to Baosheng's expectations and high production output, the printers operate in a particularly challenging environment. Extreme humidity and wide temperature swings are frequent problems, due to the monsoonal weather that affects China's Jiangsu province throughout spring and summer.



According to Wan JiaQin, Manager of Facility and Technology at Baosheng, “The plant is exposed to external weather conditions, which can swing widely with changes in the seasons or even the day. The environment can range from cold and damp on any given morning to hot and dry by the afternoon.”

These conditions can cause problems for early-generation CIJ printers. Among other factors, these early printers were designed to connect to production plant air compressors in order to drive the ink system and clear the printhead. Like many, Baosheng's plant air compressors draw their air from the outside environment. During extreme wet weather, humidity tends to collect and condense in the compressed air lines, subsequently contaminating the ink and clogging the printheads.

Dealing with airborne particles in the environment has proven to be a challenge, as well. For example, the older CIJ printers feature tanks for storing the coding inks and solvents. Sometimes, just opening the lid on one of these tanks—without carefully dusting it off first—is enough to contaminate the printing fluids and lead to a clogged printhead.

“Ours is a tough operating environment,” says Wan JiaQin. “And the Videojet 1710 thrives in it. What's more, the Videojet high-contrast inks are visible across our range of substrates. Each time a printer goes down, it takes our maintenance personnel an average of 30 minutes to service the coder and rectify the situation. During that time, some 450 meters typically go across the line without marking. This material has to be subsequently collected, taken out of the normal production process and manually reworked, taking up another hour of production time.”

When the time came to find a replacement for its aging CIJ printers, Baosheng considered products from Markem-Imaje and two local suppliers before ultimately selecting the Videojet 1710 high-contrast coder. The company chose Videojet and the 1710 for high performance, competitive pricing, operational stability and timely service response. And the design of the 1710 completely eliminates the issue of ink contamination. Just a month after making the choice, Baosheng was using the Videojet 1710 in its production environment.

“Maximizing production line uptime is critical to delivering the widest product selection and most competitive prices to our customers,” says Ju ChaoRong. “The 1710 coder is ready when our lines are, helping us achieve our business goals.”



Savings Quantified:

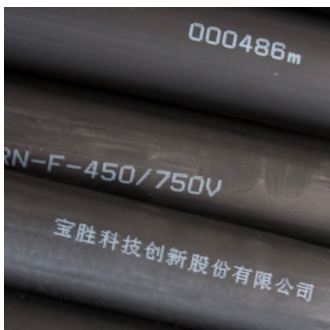
\$4,773 savings per month, or

\$57,276 savings per year by one coder!



With the Videojet 1710 printer in place on one production line, Baosheng is seeing great results:

- Increased reliability provides higher production uptime while reducing product rework and material waste.
- The 1710's positive air, CleanFlow™ printhead and improved dust resistance prevent the intrusion of outside particles, contributing to a very low failure rate. With the 1710 on duty, maintenance and production costs have already dropped by an estimated 30,000 yuan per month, for just one line.
- The printhead design ensures the highest print quality with minimal cleaning, even when using the toughest pigmented inks. The perforated design of the CleanFlow™ printhead with increased positive airflow reduces ink build-up and minimizes printhead cleaning in Baosheng's high-output, high-humidity environment.
- Sealed cartridge inks eliminate spillage and contamination, while SmartChip™ technology eliminates ink mix-ups and waste.
- Simplified programmability enables production operators to quickly create new codes and retrieve stored codes, accelerating changeover between SKUs while reducing errors.
- Easy, predictable maintenance with extended mean times between scheduled procedures allows line managers at Baosheng to feel confident that the 1710 printer will run efficiently for a specified number of production hours.



"One of the things I like—and my maintenance workers especially like—is the Core technology," says Ju ChaoRong. "By putting all the coder's filters and wear items into one easily replaceable unit, scheduled maintenance is almost a non-event with the 1710. This not only helps drive down our overhead costs, it keeps our production lines going. We're very impressed with the design and function of the Videojet 1710 printer. By insulating the coder from external air supplies, they've ensured that clean air is flowing over internal components and through the perforated printhead. The printer also seems to start up much more easily after days when we are not using it, like it has been taking care of itself. This design of the Videojet 1710 printer contributes directly to our production line uptime."

The Videojet 1710 coder is specifically designed to deliver the toughest of pigmented inks in even the harshest of environments—without clogging the printhead. Pigmented high-contrast inks are of particular importance to customers like Baosheng who need to create highly legible regulatory codes, installation information and branding marks on dark substrates. These high-contrast inks are available in Videojet's Smart Cartridge™ fluid delivery system, which eliminates spillage, contamination, waste and operator error.

"When you combine our high production speeds, hot temperatures and factory environmental conditions, you need tough inks—and a printer that won't clog up when you run them," Ju ChaoRong explains. "We've found this with Videojet. We can run any ink we need—including pigmented, high-contrast ink—in the 1710 coders without problem. And the ink dries very quickly with excellent adhesion, supporting our fast production speed."



Smart Cartridge™ fluid delivery system in the Videojet 1710 coder



What's Down the Line?

With a successful production test behind them, Baosheng has already placed an order for another 17 Videojet 1710 coders for installation across their cable production lines. And now everyone who works on those lines is looking forward to the Videojet promise: Uptime Peace of Mind™.

Videojet Service and Support

Videojet understands the importance of a customer's investment and the need to keep processes up and running. That's why the company offers such an extensive range of customer service and support. Whether a customer needs individualized training or a seasoned expert on site, Videojet is there to help.

"Production stoppages are not tolerable to us. So it's nice to know that the Videojet service and support organization is there if we need them. They've even worked with us to maximize the operational performance of our Videojet products."

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