BELMAC
MACHINERIES

XINGYAO
TEXTILE
MACHINERY
CO. LTD

BMXY-920 AIR JET LOOM

浙江星耀纺织机械有限公司

ZHEJIANG XINGYAO TEXTILE MACHINERY CO. LTD.

BELMAC MACHINERIES - Representing Global Manufacturers of Textile Machineries

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BMXY-920 AIR JET LOOM

BMXY-920 Air Jet Loom is designed with the concept of high-performance weaving of superior quality fabrics at the lowest production cost for our customers.

About Global Supplier

Zhejiang Xingyao Textile Machinery Co. Ltd is a limited liability company with operation in Zhejiang, China. It is a high-tech enterprise with its sole focus on manufacturing Airjet Weaving Looms with an installation of over 1,50,000 Airjet Looms of all types ranging from Crank shedding, Cam Shedding, Dobby Shedding & Jacquard Shedding. It is one of the biggest players in the Chinese Airjet weaving loom industry. The company's main focus is on the Research & Development of the technology to optimize the machine quality to ensure its cost-effectiveness & longevity. More than 20 years of experience in the Airjet loom industry has ensured that the company stays on top of upcoming technology and recent developments to serve its customer with the most cost-effective solution with best- in- class quality.

- **High speed**

  New weft insertion, new frame structure and high-speed CPU stimulate running speed maximum of 1200 RPM.

- **Low energy consumption**

  With New weft insertion and its main nozzle design, we have optimized energy saving due to less air consumption.

- **Low vibration**

  Using 3D design and computer analysis the new frame structure including the cross-rail connections, that was used in a lighter design and optimum balance of the beating motion. These improvements ensure lower vibration with high-speed operation.

- **Flexibility and wide applicability**

  A Full range of standard equipment and a variety of options can weave fabrics that were previously mostly woven by rapier looms, including wide home furnishings fabric, stretch fabric, the fabric of different yarn types and counts, airbags, seersucker and fabric with tuck- in selvedges.

- **Easy operations & new electronics**

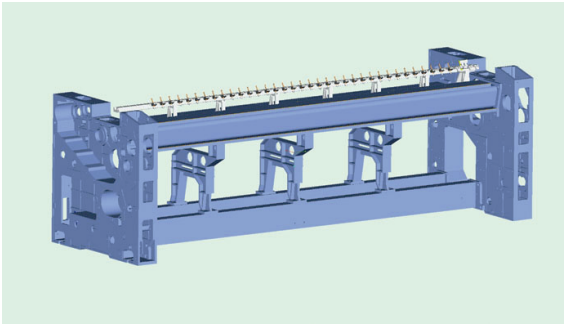
  Relatively lower machine and upper temple are both easier for the operator. A new internet-ready color function panel with enhanced communication capability and a faster CPU are helpful for the operator.

- Moving speed depends on the fabric .....

Design for high speed

• STRONG FRAME STRUCTURE AND STRUCTURE OF BEATING BALANCE

The robust frame structure, mainly composed of a strong box frame on both sides and beams and intermediate rocking supports, ensure stable running and vibration resistance Meanwhile, adding the beating balance structure. ensure low noise and less vibration even at high speed on the wide loom.

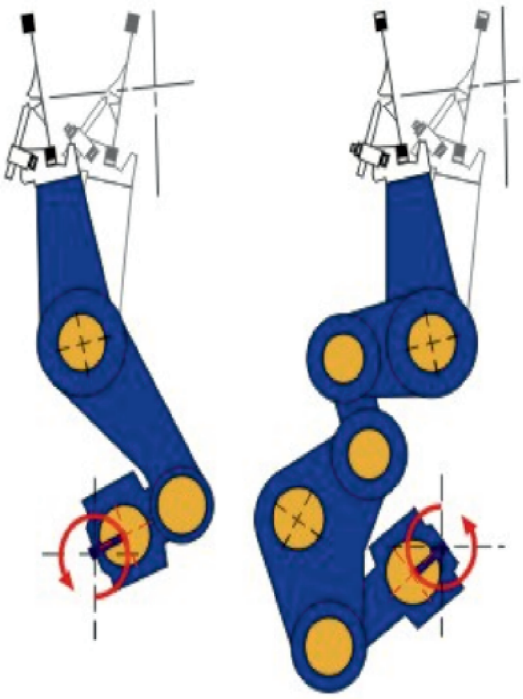


• OPTIMUM DESIGNED LINK BEATING MOTION

By optimizing the link mechanism against the conventional model, an expanded dwell angle has to be attained. Under the same condition of the warp shedding amount, it is possible to ensure timing for longer weft insertion. Defective shedding is reduced, improving the loom operation.

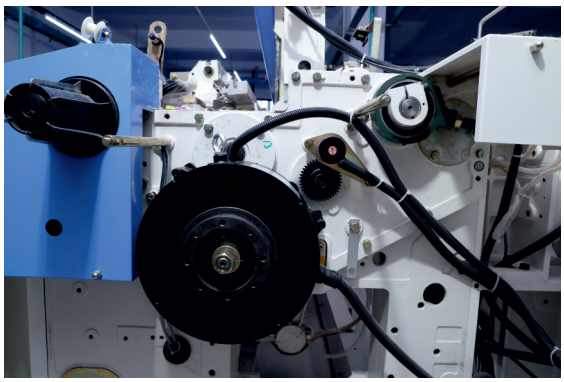
A 4-link rod beating-up mechanism is of short stroke, small vibration, and can affect strong beating-up while high-speed operation, suitable to high-speed narrow loom. It works excellently at ultra-high speed and a short connecting rod is used for standard looms.

A 6-link beating motion with more time allowance for filling insertion is used for wider looms, thus achieving more stable filling insertion. It can prolong the time for the opening of warp, and weft, more suitable for wide loom weaving.



• DRIVING- PERMANENT MAGNET MOTOR

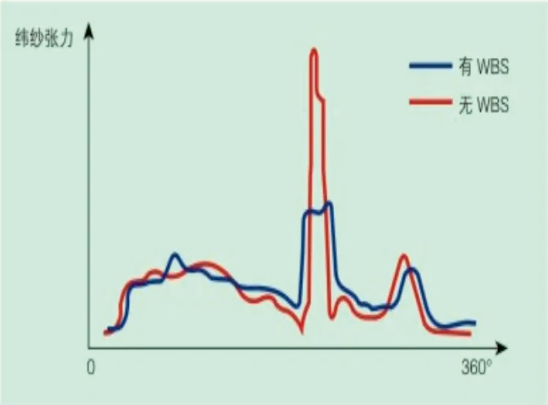
This air jet weaving loom machine is equipped with a new permanent-magnet motor. This motor system delivers high-power torque at starting, enabling increased beating power for the first pick, eliminating stop marks, and contributing to high-quality production.

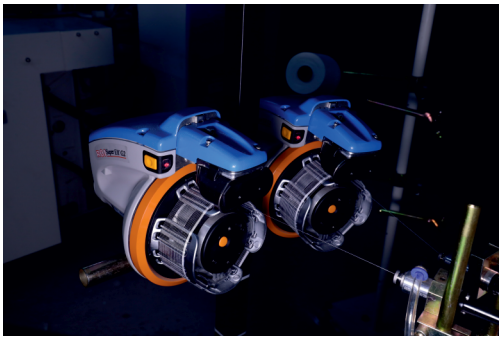


Advanced design using computer streamline analysis provides stable insertion of weft yarns and reduced air consumption.

WBS WEFT BRAKE SYSTEM

During the weft insertion in air-jet weaving, a yarn brake plays an important role in reducing the tension when braking the weft thread. An inappropriate braking process can cause backward movements of weft thread, fabric defects, and also larger material consumption. The WBS sharply reduces peak tension that occurs at the end of filling insertion to prevent filling breakage and looseness. The WBS precisely controls brake timing and brake stroke according to the yarn release timing detected by the sensor. This system is best for extra-wide weaving which invites higher peak tensions. It is also helpful for yarns which may cause broken picks. Set values for the WBS can be automatically entered from the I-Board. The pull-back function prevents tip troubles.





- NEW PERMANENT MAGNET MOTOR WEFT ACCUMULATOR

A New permanent-magnet motor weft accumulator with a new solenoid pin is highly reliable even during high-speed operation and also allows one wrap release for enhanced operation. Electric weft accumulator with speed control, The rotational ratio of each electric weft accumulator can be set independently to minimize the changes in rotation. effectively preventing weft yarn breaks. When used with the optional electric drum pooling with weft separation, stable weft insertion can be achieved even when weaving multi-colored fabric with complex patterns.

• AUTOMATIC PICK CONTROLLERS

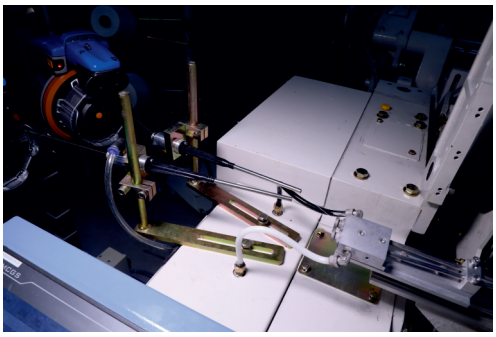
With an advanced design using computer streamline analysis to provide the stable insertion of weft yarns and reduced air consumption, this Air Jet Loom is equipped with Automatic pick controllers and sub-tanks.

New AJC

This device enables stable weft insertion by automatically synchronizing air injection of the conical tandem nozzle with the arrival of the weft yarn, changing the weft, and releasing tension from the weft accumulator.

New FIC (OPTIONAL)

The FIC automatically sets the timing of weft yarn and pressure based on information entered through the function panel, such as fabric type and loom speed. It also controls weft insertion pressure according to the travel status of the weft yarn during loom operation.



Main Nozzle

An air gripper, ideal for highly elastic yarns such as stretch yarn, is also available as an option.

• SUB TANK

The sub-air tank receives high-pressure air from the compressor and serves to keep a constant jet pressure. The sub valve is connected directly to the sub-tank for efficient airflow.

• NEW SOLENOID VALVE

We have successfully developed a high-performance solenoid valve with a smaller size and quicker response. Which eliminates waste in air consumption and can support short-pitch sub nozzle. The 65mm short-pitch sub nozzles

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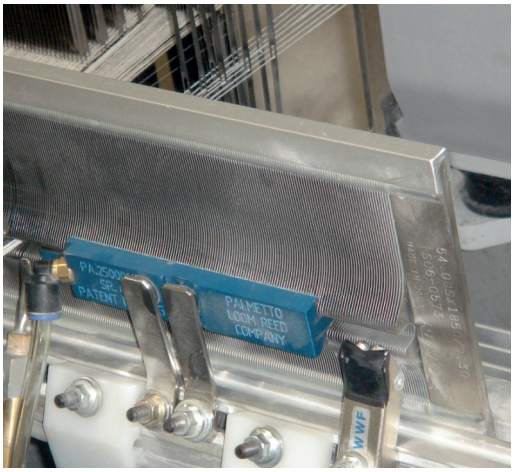
• STRETCH NOZZLE

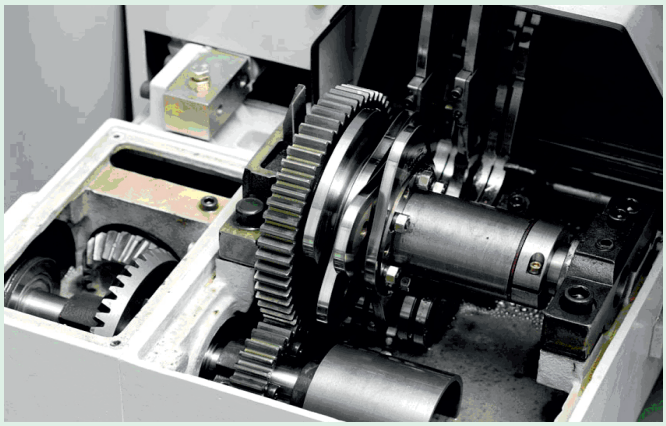
This device stretches the yarn at the right selvage edge to reduce the air volume required by the sub-nozzles. It also effectively prevents slack filling that can occur when waving filament yarns.



Multiple Shedding Motion

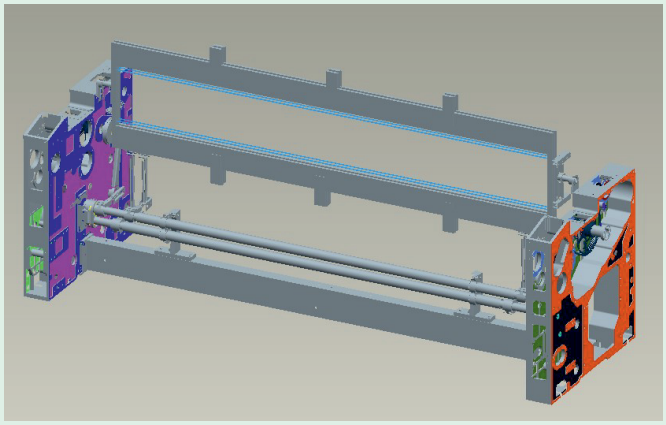
- **Negative Cam Shedding Device up to 8 Heald Frames**

Negative cam shedding device up to 8 heald frames : The negative cam opening device adopts a negative cam motion suitable for ultra-high speed operation. Good warp shedding is designed, which is suitable for weaving plain, twill and satin fabrics.



- **Negative Cam Shedding: Max.6 Shedding Frames**

It is ideal for highquality plain structure fabric.

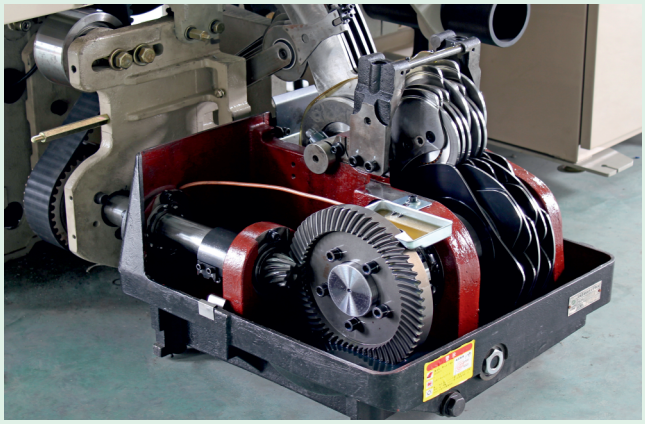


- **Dobby Shedding: Max.16 Shedding Frames**

It can weave high value-added products such as plain\twill\satin small jacquard fabric.

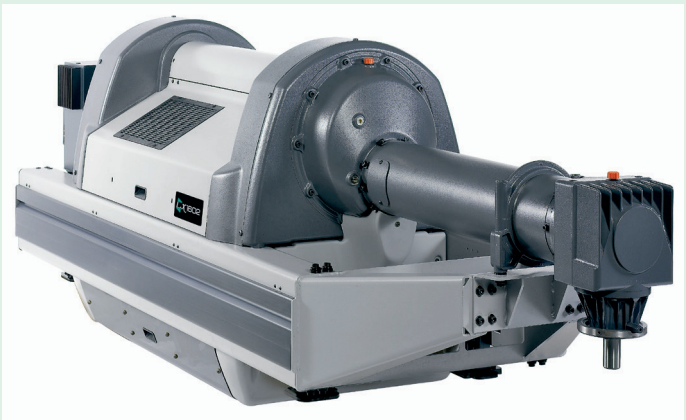
- **Positive Shedding: Max.10shedding Frames**

It can weave plain\twill\satin fabric. It is ideal for high-density spun fabrics and wide loom.



- **Jacquard**

All kinds of jacquard fabric.



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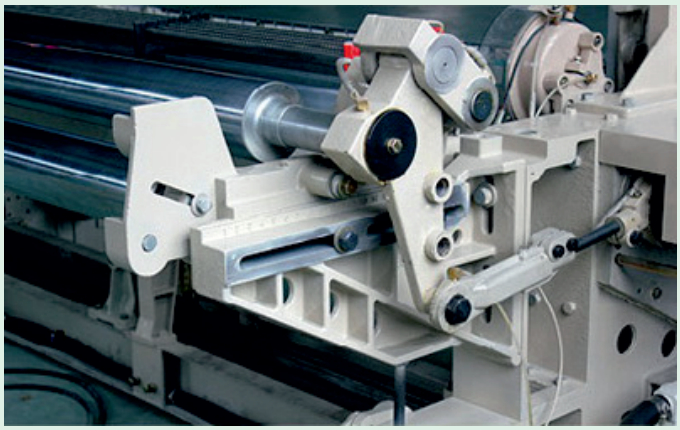
Electronic let-off and stop-mark prevention system ensure high fabric quality

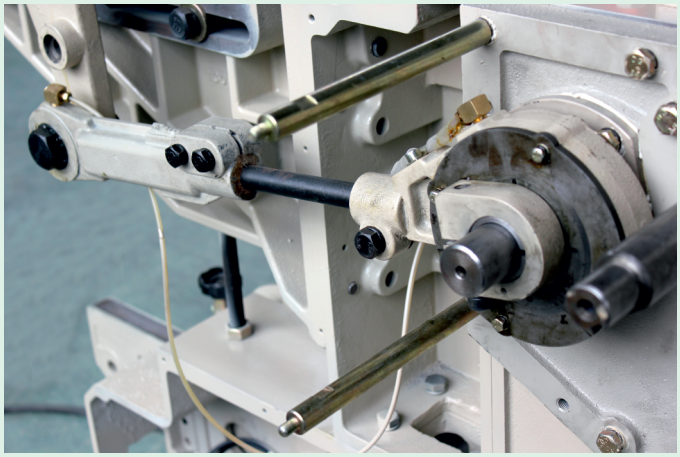
• DOUBLE BACK ROLLERS

Double back rollers detect and maintain the correct warp tension regardless of the size of the beam diameter.



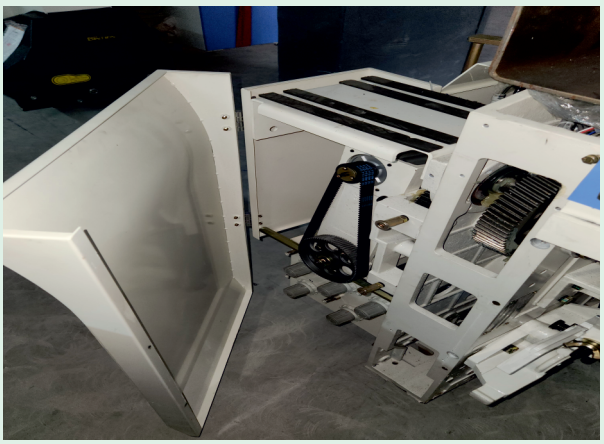
• POSITIVE EASING

Positive easing is ideal for a wide range of materials. particularly heavy or densely woven fabrics. It also offers consistent synchronized movement during high-speed operation.



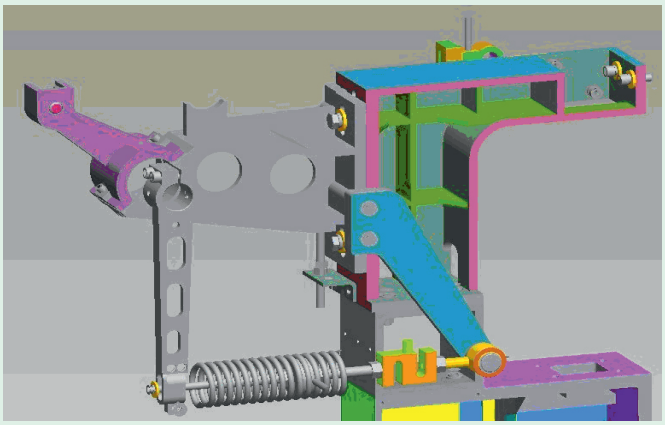
• ELECTRONICS TAKE-UP

Weft density settings can be entered from the function panel (single pick density type). This system can also changes weft density during loom operation (multiple pick density type).



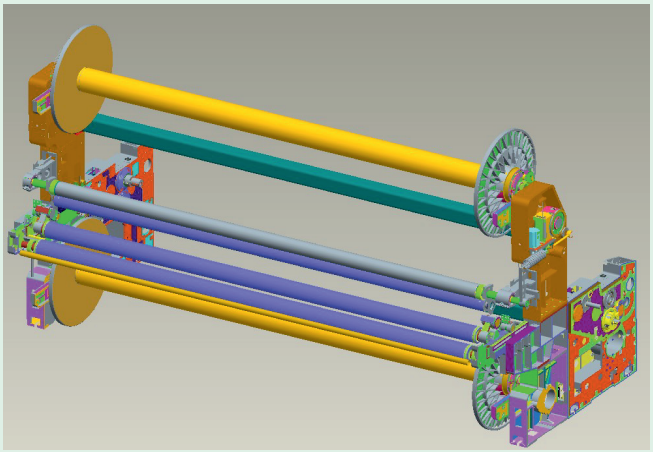
• NEGATIVE EASING

Negative easing is provided for weaving lightweight fabrics using filament yarn and glass fiber.



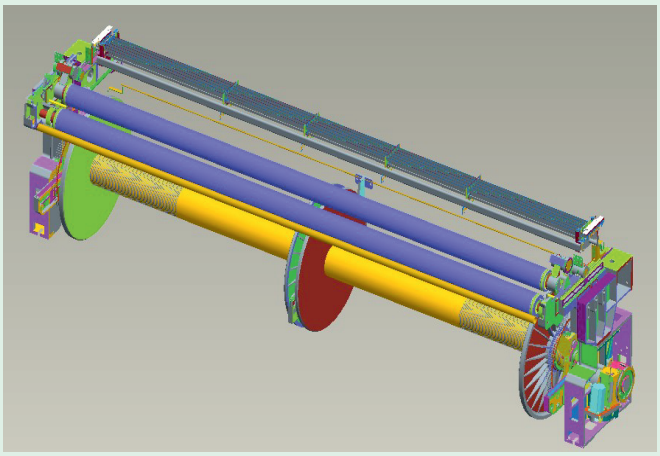
• DOUBLE BEAM

Individual servomotors for the upper and lower beams are provided for weaving fabrics with different types of warp yarn.



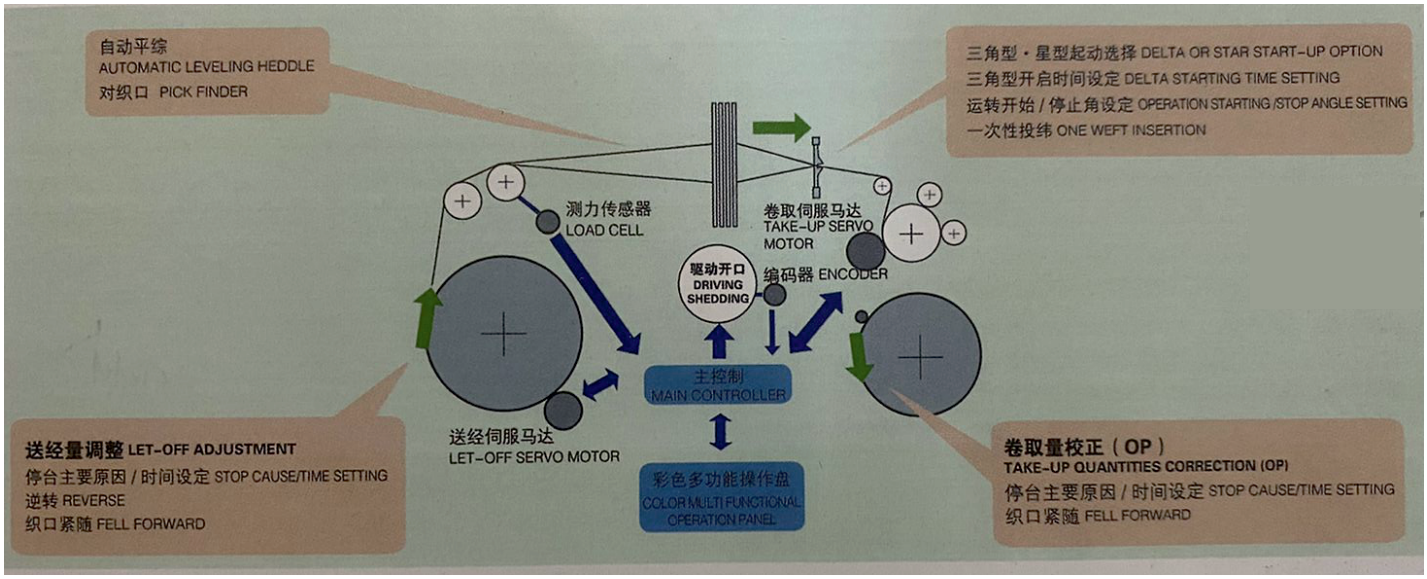
• TWIN BEAM

It can be equipped with individual servomotors for the right and left beams, assuring from weaving quality for wide fabrics.



Total Stop-Mark Prevention System

The powerful CPU controls various devices, including let-off and take-up mechanism, effectively preventing stop-marks.

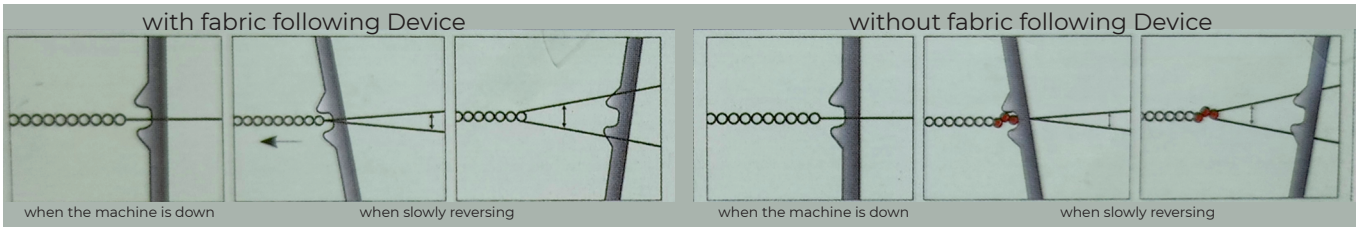


- **SELECTABLE MAIN MOTOR START-UP METHOD**

  The super-fast start-up motor ensures full beating power from the first pick. A delta or star configuration can be selected for motor start-ups, offering different start-up torques to prevent heavy or light filling bar defects.

- **FELL FORWARD**

  Releasing warp yarn let-off tension immediately after the loom halts prevents the cloth fell from touching the reed, thus eliminating another cause of stop marks. After the loom restarts, the present tension is automatically restored, and beating resumes at the normal cloth fell position.



- **SELECTION MACHINE STOP/START ANGLE**

  Prevent stop marks by setting any arbitrary start/stop angle desired according to the type of fabric.

- **LET-OFF ADJUSTMENT**

  Arbitrarily setting the amount of let-off permitted in response to stoppages or machine downtime, thus reliably preventing stop marks.

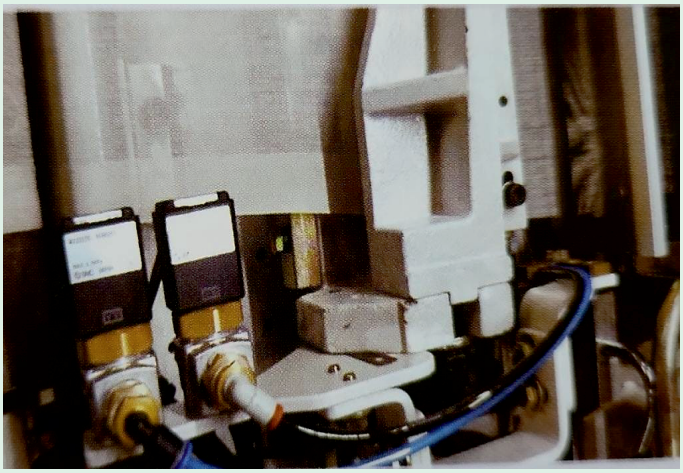
- **ONE WEFT INSERTION**

  This feature inserts a single pick without beat-up when restarting the loom. This is particularly effective in preventing stop marks when weaving heavy twill fabrics.

Selvedge Device

• AIR CONTROL TUCK-IN DEVICE

For tuck selvedge formation, filling are tucked in the edge by the force of air instead of conventional tuck-in needle movement. in the reed by a tuck-in needle is prevented, and wear and tear of the mechanical parts are eliminated. Maintenance becomes easier. The tuck-in device can be adjusted by entering values on the i-board. Fine tuck-in selvedge can be formed without difficulty.



• MECHANICAL NEEDLE TUCKER

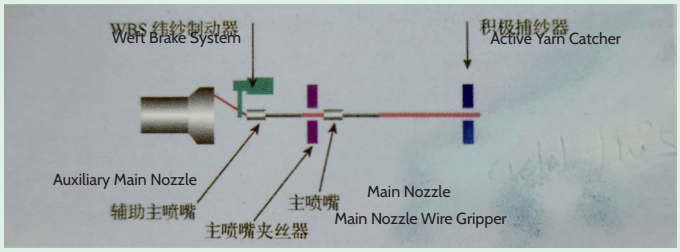
It is for high speed performance and reliability, now operates even faster. The air-grip type avoids cotton flies and achieves high speed, stable performance. The catch-cordless type is simple in operation and maintenance. It is economical as well.

• INDEPENDENT CONVERTER

Changing the running speed only needs inputting the single data in function panel.

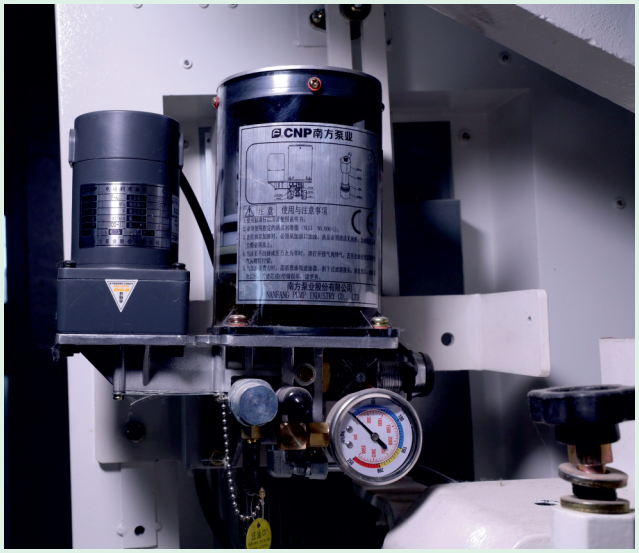
• WEFT YARN CATCHER

Combining the positive yarn catcher, the main nozzle clamper, and the WBS weft brake system depending on yarn kind facilities weaving high quality stretch fabrics.



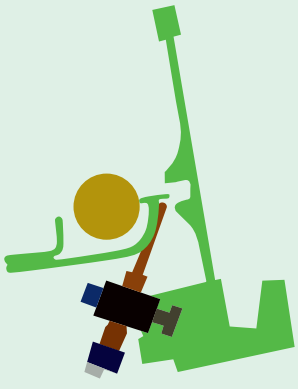
• FULLY AUTOMATED CENTRALIZES LUBRICATION

by designating a lubrication interval via the function panel, the require amount of lubricant is automatically supplied. A record of prior lubrications is also available on the function panel for verification. This feature reduces the amount of manual periodic lubrication.



• UPPER TEMPLE

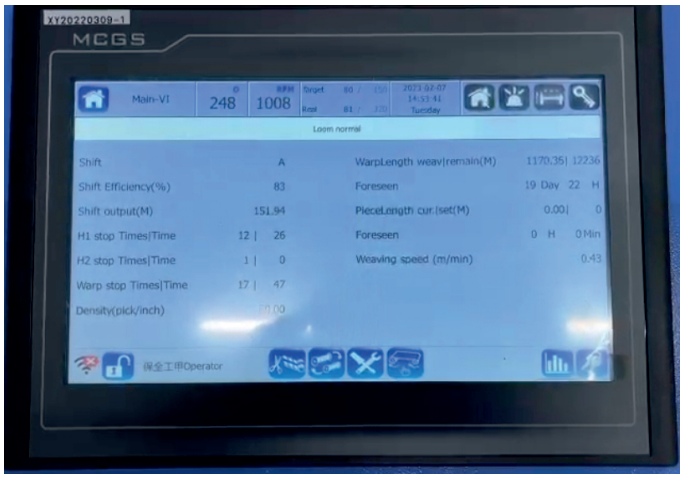
A guide bar is arranged close to the cloth fell, the assembled sets of temples and temple cases sides of the fabric. It stabilizes the cloth fell position for spun fabrics in general. improving the Moreover, sub-nozzles can be fixed beneath the guide bar, resulting in wider versatility.



Computer Control System

BMXY-920 is equipped with international first-class electronics technology, which enhances automatic setting functions for more detailed and easier operation. Conditions to control weaving are set automatically.

The control system is equipped with the advanced technology. DSP, CPLD servo and brushless DC motor control technology. CANBUS communication on technology. They improve the stability and intelligence level and ensure the loom runs with super reliability and performance. All setting is operated on the big color touch screen, storage or transfer digital memory card.



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