WATERJET LOOM

Model JTM508

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Stable, high-speed waterjet loom solutions

Qingdao Jetmech Machinery Technology Co., Ltd.

Founded in 1998, JETMECH has more than 25 years of textile-machinery experience, including 15 years in waterjet loom development and production. We recommend practical configurations and provide installation guidance and after-sales technical support.

About This Technical Catalogue

We created this technical catalogue to explain the machine clearly and honestly. It helps you understand how each system works, compare the options that truly matter, and make a well-informed purchasing decision.

Project Matching

Configure the loom for your fabric.

Application Fit	Polyester, nylon, and other synthetic filament fabrics suited to waterjet weaving.
Configuration Matching	We match the shedding, pump, nozzle, and drive systems to the fabric and target output. 1P/2N: one pump, two nozzles. 2P/2N: two pumps, two nozzles.

One Loom Platform, Configured for Your Fabric.

JTM-508 CONFIGURATION OPTIONS

01 REED WIDTH	02 Pump / Nozzle	03 Shedding Options	04 Motor Options
190cm/260cm/280cm	1P/2N or 2P/2N	Crank / Cam / Electronic Dobby	5.5 kW X-Motor (Direct Drive) or Belt-Driven AC Motor

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Machine Layout & Service Access





01

Let-Off, Take-Up, Pump & Suction Drive Side

This side houses the drives for warp let-off, fabric take-up, water-pump operation, and water suction. Together, these mechanisms support controlled warp delivery, steady fabric advance and consistent pick density, correctly timed water supply, and removal of excess water.

02

Electrical-Cabinet Side

The electrical-cabinet side provides access to the control cabinet, wiring, and related electrical components. Keep this side clear for inspection, troubleshooting, and service.

INSTALLATION PLANNING

Allow clear access to the drive mechanisms, electrical cabinet, warp-beam loading area, and rear service zone.

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Warp Delivery & Beat-Up Structure





01

Warp-Beam Mounting & Let-Off Area

The rear structure supports and aligns the warp beam so warp yarns feed smoothly and evenly. Clear access simplifies beam loading and setup.

02

Beat-Up Shaft & Connecting Beam

The beat-up shaft moves the reed to pack each inserted weft into the forming edge of the fabric. The connecting beam adds rigidity for uniform beat-up across the reed width.

STRUCTURAL FUNCTION

Stable warp delivery and uniform beat-up help maintain fabric density and consistent quality across the full width.

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Shedding Systems for Your Weave Pattern

NPW410 CAM SHEDDING DEVICE SHOWN



Select the system for the weave pattern, heald-frame count, reed width, and target speed.

SELECTION GUIDANCE

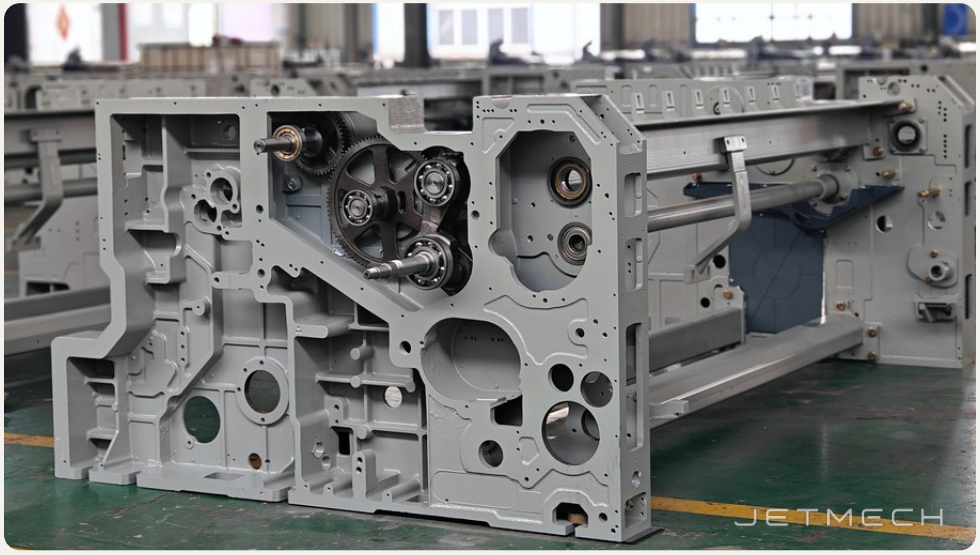
- Crank: Simple, repetitive weaves with fewer heald frames.
- Cam: Fixed weave patterns within the device's heald-frame capacity.
- Electronic dobby: Programmable shedding for more heald frames or longer pattern repeats.

Supplier ratings describe the shedding device. Actual JTM-508 speed depends on the fabric, reed width, weft yarn, shedding system, and settings.

SPECIFICATION	NPW410 CAM	NPW411 CAM	NP5400D ELECTRONIC DOBBY	LP409 CAM
REED WIDTH	190-360 cm	190-360 cm	190-390 cm	190-360 cm
Supplier-Rated Maximum Speed	1,000 rpm	800 rpm	750 rpm	800 rpm
Heald-Frame Pitch	14 mm	14 mm	12 mm	14 mm
Maximum Heald Frames	Up to 10 frames	12 frames	Up to 16 frames	Up to 12 frames
Heddle Length	260 or 280 mm	260 or 280 mm	330 mm	260 or 280 mm
Shed Opening	56-113 mm	56-113 mm	58-142 mm	56-113 mm
Pattern Repeat Capacity	12 picks	12 picks	12,800 picks	12 picks

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HT250 Side Frames & Floor Anchoring



01 **Transmission-Side Cast Frame**

HT250 Gray-Cast-Iron Side Frames

The left and right HT250 gray-cast-iron side frames support the transmission, beat-up, and bearing assemblies. Their combined mass is approximately 570 kg. Final dimensions and mass depend on the selected reed width and machine specification.



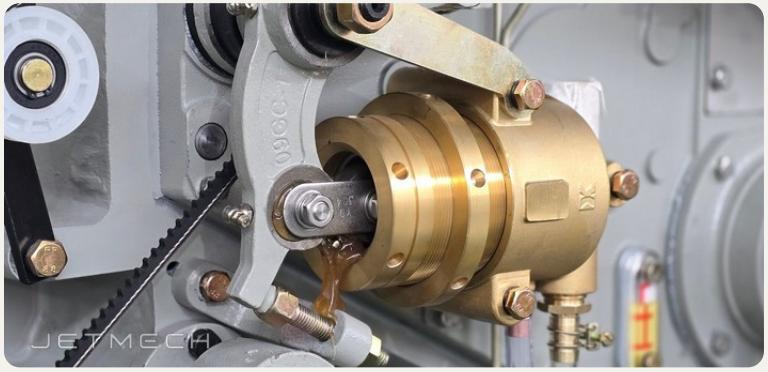
02 **Opposite-Side Cast Frame**

Eight Side-Frame Anchors + Center Supports

Four anchors secure each cast side frame, giving eight side-frame anchors in total. Center supports add two anchors for the 190 cm configuration or four for the 280 cm configuration. Final positions follow the approved installation drawing.

FRAME ADVANTAGE HT250 side frames, eight side-frame anchors, and center supports form a rigid base that helps limit vibration.

Water Delivery & Suction

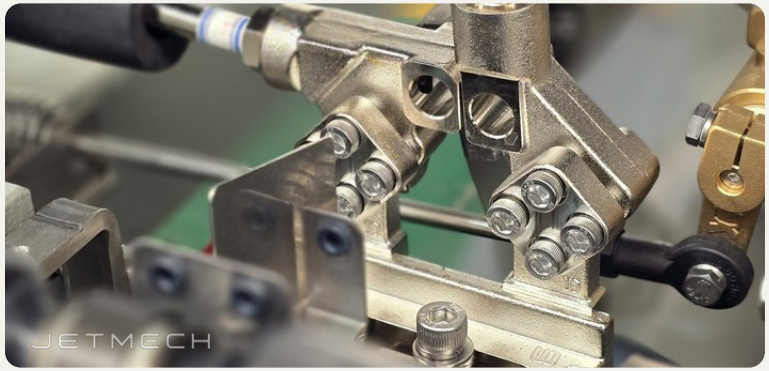


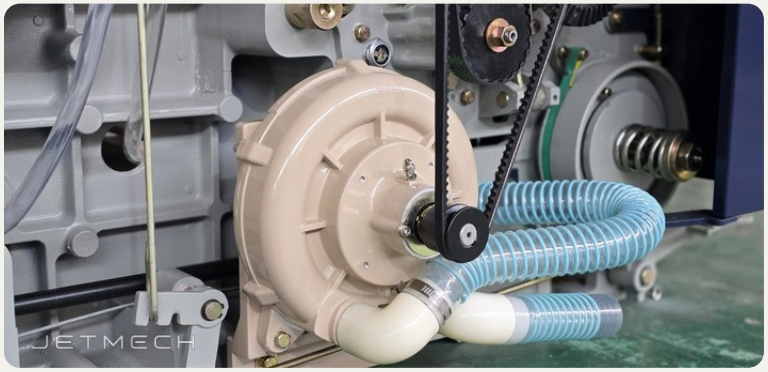
01 Water Pump & Brass Fittings

The water pump supplies the pulse that carries the weft across the loom. The pump, plunger, brass fittings, nozzle, and delivery timing are matched to the weaving requirements for consistent weft insertion.

02 CNC-Machined Nozzle Holder & Guide Assembly

The CNC-machined holder and guide assembly keep the nozzle securely positioned and the water jet correctly aligned. This helps guide the weft across the loom along a consistent insertion path.





03 Aluminum-Alloy Water-Suction Blower

The aluminum-alloy blower helps remove excess water from the woven fabric. A Ø65 mm SS304 suction pipe and stainless-steel tray form a corrosion-resistant water-removal path, helping manage water around the weaving area.

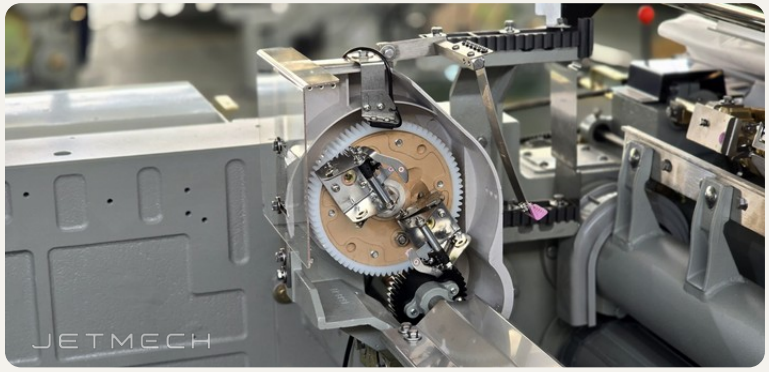
CONFIGURATION CONSIDERATIONS

Match pump, plunger, nozzle, and suction capacity to reed width, weft yarn, and target speed. Include the drainage connection in the installation plan.

Leno, Bearings & Temple Systems

04 Leno Selvage Device

The leno device crosses the leno yarns to bind the weft ends at the fabric edge, forming a stable selvage. The yarn arrangement is selected to suit the fabric and required edge structure.





05 NSK / NACHI Main Drive Bearings

NSK or NACHI bearings support the main drive shafts inside the transmission gearbox, allowing the shafts to rotate smoothly. This helps the drive system transmit power steadily during high-speed weaving.

06 Six-Ring Temple Assembly

Positioned close to where the fabric forms, the temple holds the weaving width and helps prevent the fabric from pulling inward during weaving. Its rings and needles are selected to suit the fabric.



CONFIGURATION CONSIDERATIONS Match leno threads and temple rings to the required selvage, fabric construction, and weaving width.

Coordinated Timing for Weft Insertion



01

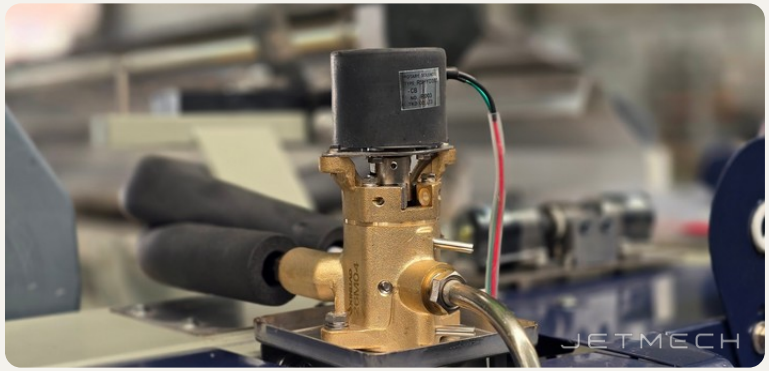
Electronic Weft Feeder

The electronic weft feeder measures and stores the required weft length, then releases it at the programmed time. This provides a consistent weft supply for each insertion cycle.

02

Water-Jet Solenoid Valve

The solenoid valve selects the required water-jet line in step with the loom control. Matching the valve to the pump, nozzle, and weft arrangement supports correctly timed water delivery.





03

Main-Shaft Angle Encoder

The encoder sends main-shaft angle information to the controller. The controller uses this timing reference to coordinate weft release and water-jet actuation with the weaving cycle.

CONFIGURATION CONSIDERATIONS

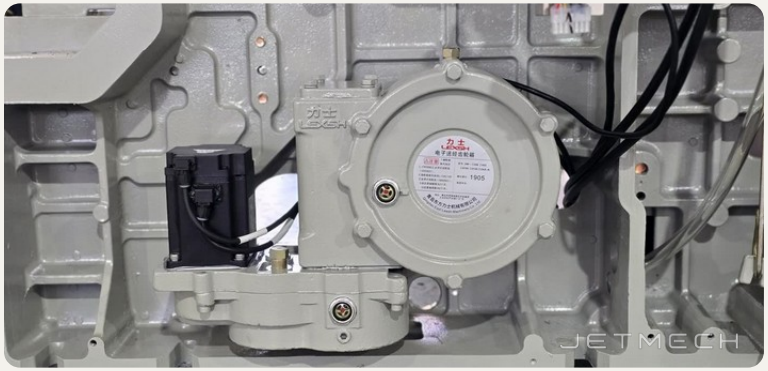
Select feeder quantity and valve circuits for the fabric's weft arrangement. Coordinate release timing with the weaving cycle.

Warp Tension, Pick Density & Main Drive

04 English-Language HMI & Diagnostics

The English-language touchscreen displays speed, production data, alarms, and key settings. Clear operating information and diagnostics help operators set up the loom and identify problems.



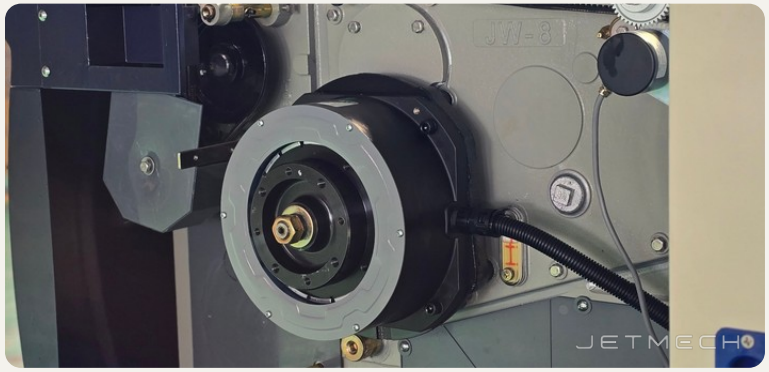


05 Electronic / Mechanical Let-Off & Take-Up

Electronic let-off (ELO) controls warp delivery to maintain yarn tension as the beam unwinds. Electronic take-up (ETU) controls fabric advance to maintain the set pick density, or weft threads per unit length. Mechanical let-off and take-up are also available.

06 5.5 kW Direct-Drive Main Motor (X-Motor)

The 5.5 kW X-Motor drives the main shaft without a conventional main-drive belt. It reduces belt transmission losses and can lower energy use. Fewer main-drive parts simplify maintenance and support smooth high-speed operation. Auxiliary mechanisms may still use belts.



CONFIGURATION CONSIDERATIONS

Select electronic or mechanical let-off/take-up for the production plan. Match the main motor to the application and factory voltage and frequency.

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JTM-508 Configuration & Options

Listed quantities describe this configuration. Final quantities, specifications, brands, and options follow the confirmed order.

NO.	COMPONENT	SPECIFICATION / BRAND
01	**Machine Model**	JTM-508
02	**Reed Width**	190 cm / 280 cm. Other widths on request.
03	**Cast Side Frames**	HT250, approx. 570 kg combined, 880 mm high, 8 side-frame anchors
04	**Pump / Nozzle**	1 pump / 2 nozzles or 2 pumps / 2 nozzles
05	**Shedding System**	Crank, NPW410 / NPW411 / LP409 cam, or NP5400D electronic dobby
06	**Control System**	XINLIAO controller, 7-inch touchscreen
07	**Weft Feeders**	2 XINLIAO Electronic Weft Feeders
08	**Heald Frames**	8 / 10 / 12 PCS
09	**Let-Off / Take-Up**	Mechanical or electronic
10	**Warp Beams**	2 sets, Ø800 mm
11	**Cloth Rollers**	2 sets, aluminum
12	**Heald Wires**	Approx. 10,000 PCS
13	**Reed**	1 PC, specification matched to fabric
14	**Valve Plate**	MDH, Korea
15	**Pump Pressure Spring**	MDH, Korea. Pressure-regulating spring.
16	**Brass Fittings**	JL (JILONG) or XK

NO.	COMPONENT	SPECIFICATION / BRAND
17	**Water Pump**	JL or XK, brass body
18	**Pump Return Spring**	SHUNDING, made in Taiwan
19	**Beat-Up Shaft**	Ø114 mm coaxial beat-up shaft
20	**Oil Seals**	TTO, Taiwan
21	**Main Motor**	5.5 kW direct-drive X-Motor / conventional belt-driven motor
22	**Main Drive Bearings**	NSK or NACHI, made in Japan
23	**Back-Rest Roller**	Ø113 mm, stainless-steel surface
24	**Auxiliary Drive Belts**	CHUNGUANG, auxiliary mechanisms only
25	**Nozzle**	MDH, Korea
26	**Protective Cover**	Stainless-steel construction
27	**Tray Support Beams**	Front and rear pentagonal support beams
28	**Water Suction Pipe**	Ø65 mm, SS304
29	**Water Suction Blower**	Aluminum-alloy construction
30	**Electrical Panel Cover**	Stainless steel
31	**Center Supports**	190 cm: 1 support + 2 anchors 280 cm: 2 supports + 4 anchors

CORROSION PROTECTION FOR LONG SERVICE LIFE

The machine-body covers and fasteners are made of stainless steel.

Main frame: phosphating pretreatment and electrophoretic coating, followed by protective paint and an exterior finish coat.

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