ZAX neo 001 Plus

AIR JET LOOM

ZAX neo 001 Plus AIR JET LOOM

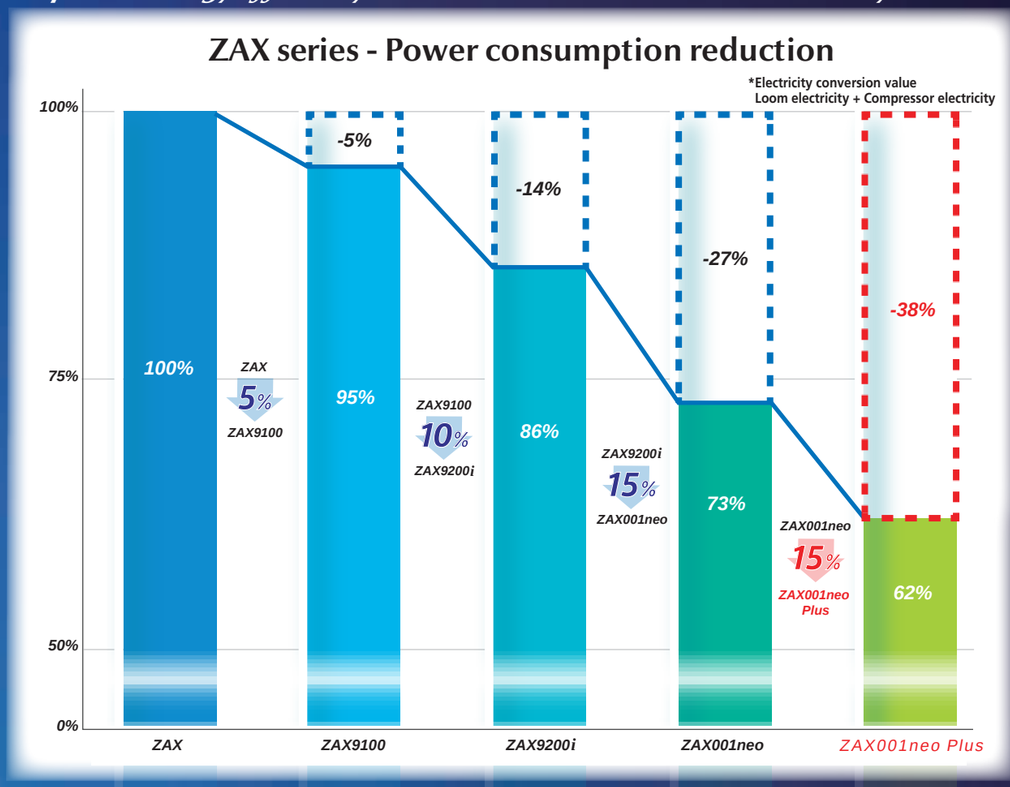
New

Outstanding Energy-Saving Technology

The ZAX001neo Plus

SYSTEM S・Plus + SYSTEM EOS

improves energy efficiency and contributes to a sustainable society.



Inheritance of neo-ism

World-Leading Ultra-High Speed Performance

Maximum working rpm: 1,350 rpm
**For 190-2C-Positive cam (with AL20 of cam dwell)*

Neo Weft Insertion System

TAP Tsudakoma Advanced Platform

Thorough Support for High Quality

Cam Beating System

TAP Tsudakoma Advanced Platform

Weave Navigation® System-II

Robust Frame Structure

30% Reduction in Vibration
**Compared with the ZAX9200i*

TAP Tsudakoma Advanced Platform

New

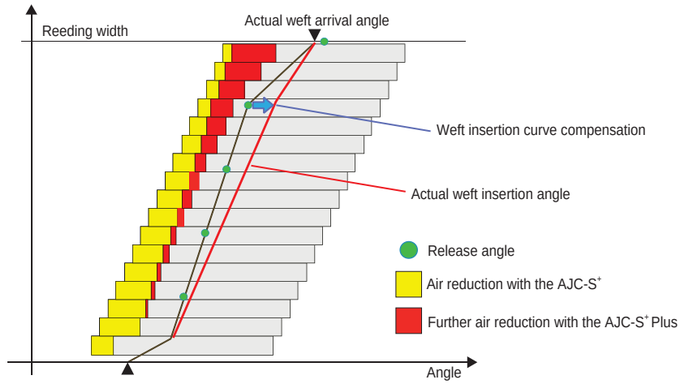
Outstanding Energy-Saving Technology

ZAX neo 001 Plus AIR JET LOOM

SYSTEM S·Plus

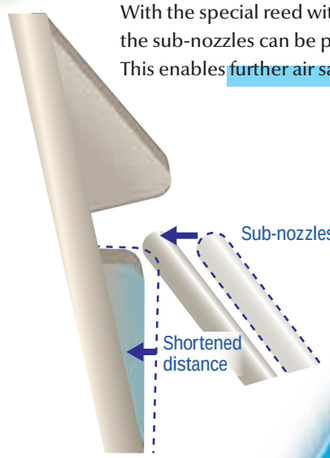
AJC-S⁺Plus Auto Jet Control

Further air saving is possible by controlling the lead angle of the sub-nozzles in accordance with the actual weft insertion timing more accurately.



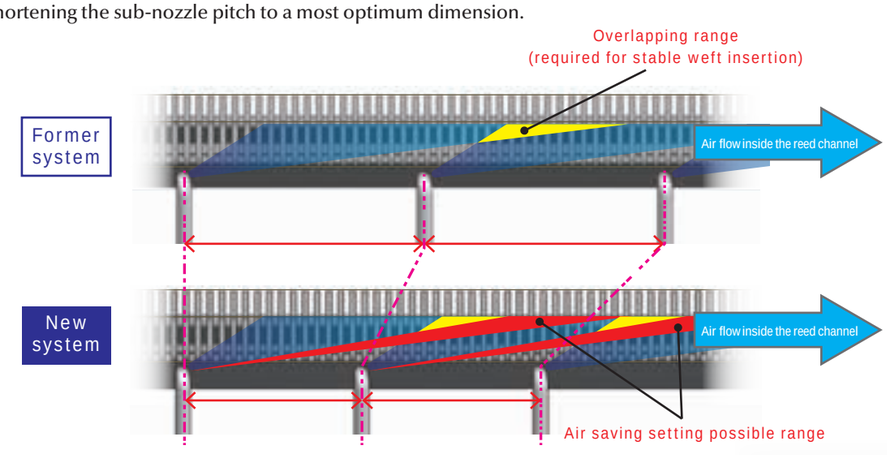
Sub-nozzles positioned extremely close to the reed *Option*

With the special reed with the exclusive shape of dents, the sub-nozzles can be positioned close to the reed. This enables further air savings and pressure reduction.



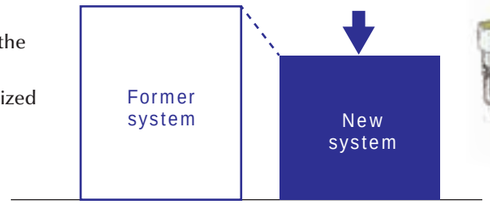
New sub-nozzles with shortened pitch

Air is saved by shortening the sub-nozzle pitch to a most optimum dimension.



Pressure loss reduction system

Highly-efficient regulator is adopted for setting the pressure for the sub-nozzles.
The air piping route and the pipe size are optimized to significantly reduce pressure loss within the loom system.



SYSTEM EOS *Option*

Efficiency

Highly-efficient driving motor significantly expands the setting range of loom speed. (Exclusively developed motor)

Optimization

Optimized drive system maximizes the performanceof the highly-efficient driving motor.

Air saving **10%**

Power saving **15%**

Pressure reduction **15%**

Note 1: Compared to the existing ZAX001neo.
Note 2: Options are included.
Note 3: Subject to change depending on specifications and fabric.

Saving Energy

New inverter with original software specializes in energy-saving drives.

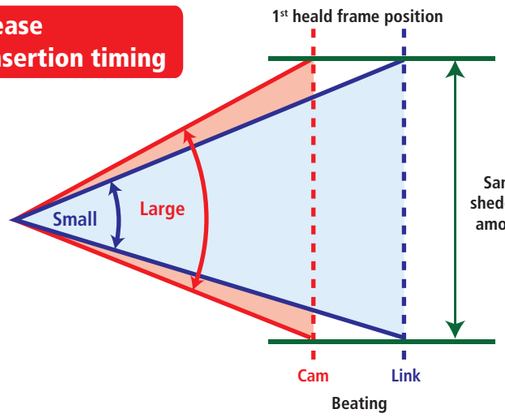
Cam Beating System

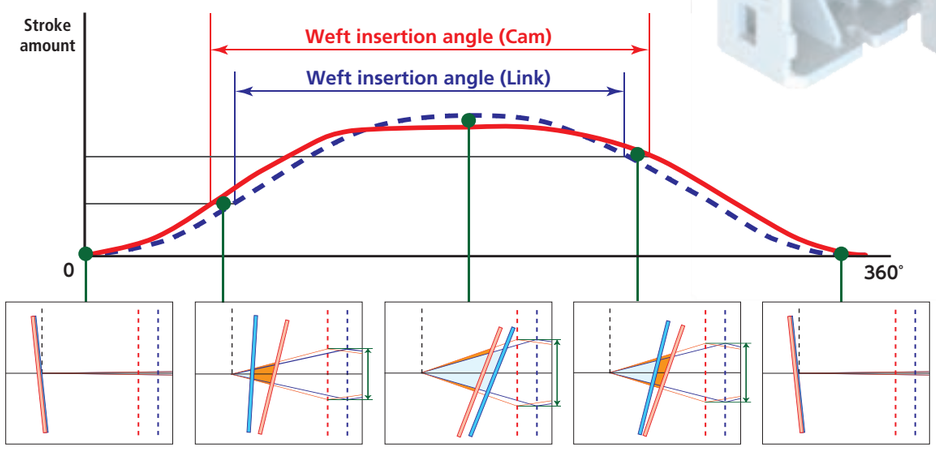
A cam beating system suitable for jet looms.
It supports customers with diverse requirements and is the best choice for expanding weaving possibilities.

High versatility and upgrade of weaving performance

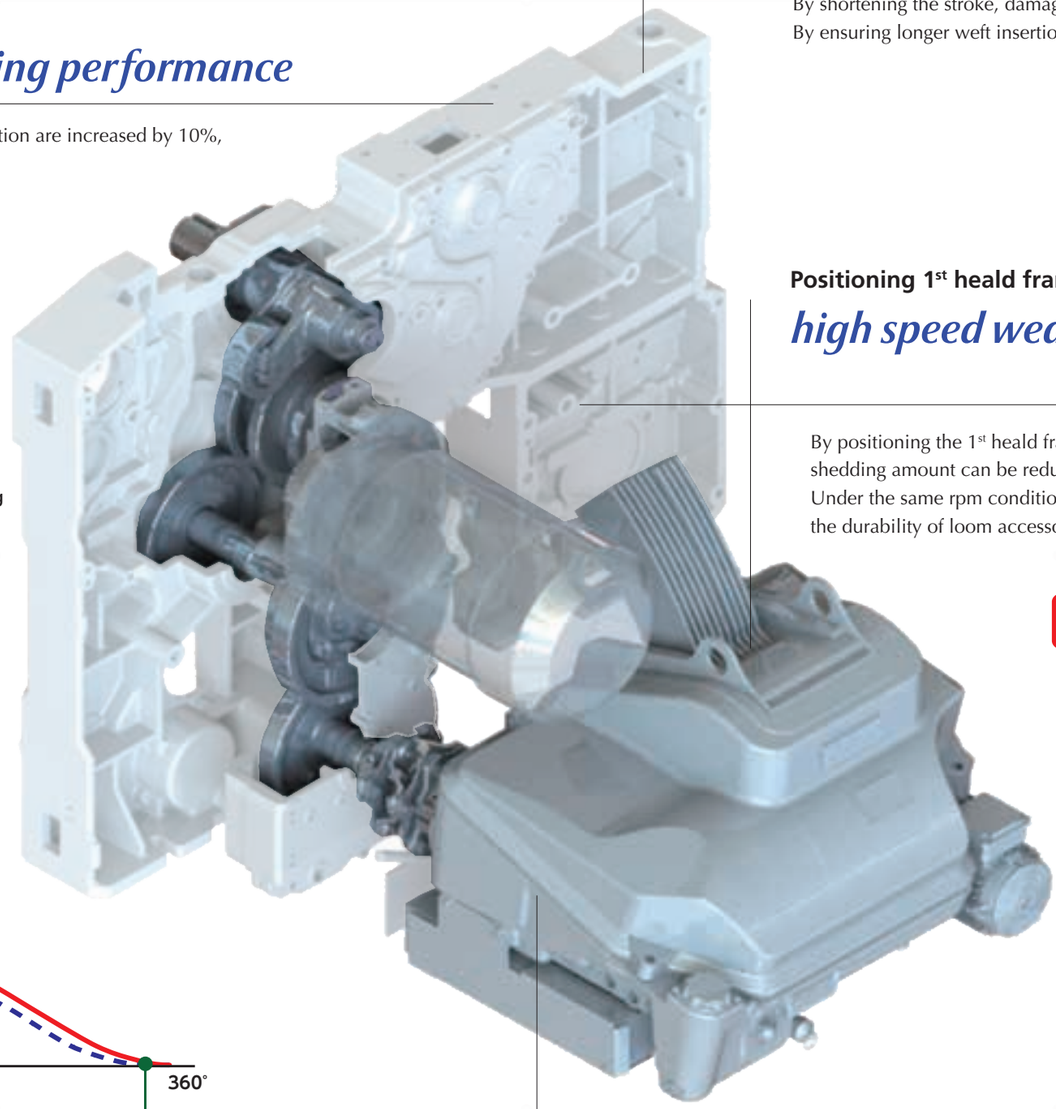
With a physical dwell in the cam beating system, time and space for weft insertion are increased by 10%, compared with the existing model.
Under the same conditions of warp shedding amount, it is possible to ensure a longer weft insertion timing and to insert difficult weft.

10% increase in weft insertion timing





A variety of dwells are available, and a suitable specification can be proposed.



High quality, air-saving and low pressure

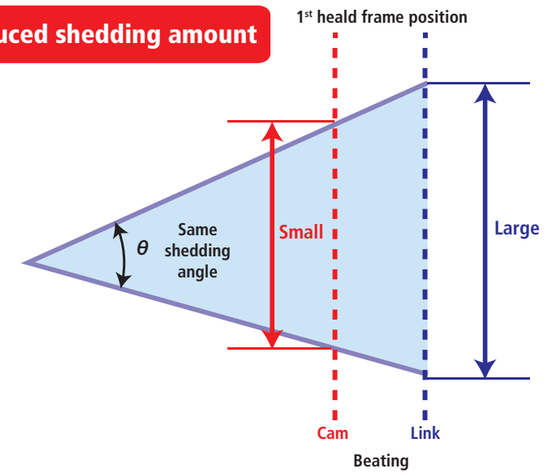
By shortening the stroke, damage to the warp yarn is reduced, achieving high quality fabric.
By ensuring longer weft insertion timing, air pressure and air consumption are reduced.

Positioning 1st heald frame closer to beating point enables

high speed weaving and *improves durability* of loom accessories.

By positioning the 1st heald frame closer to the beating point, shedding amount can be reduced, contributing to high speed weaving.
Under the same rpm conditions as in our existing model, the durability of loom accessories is improved.

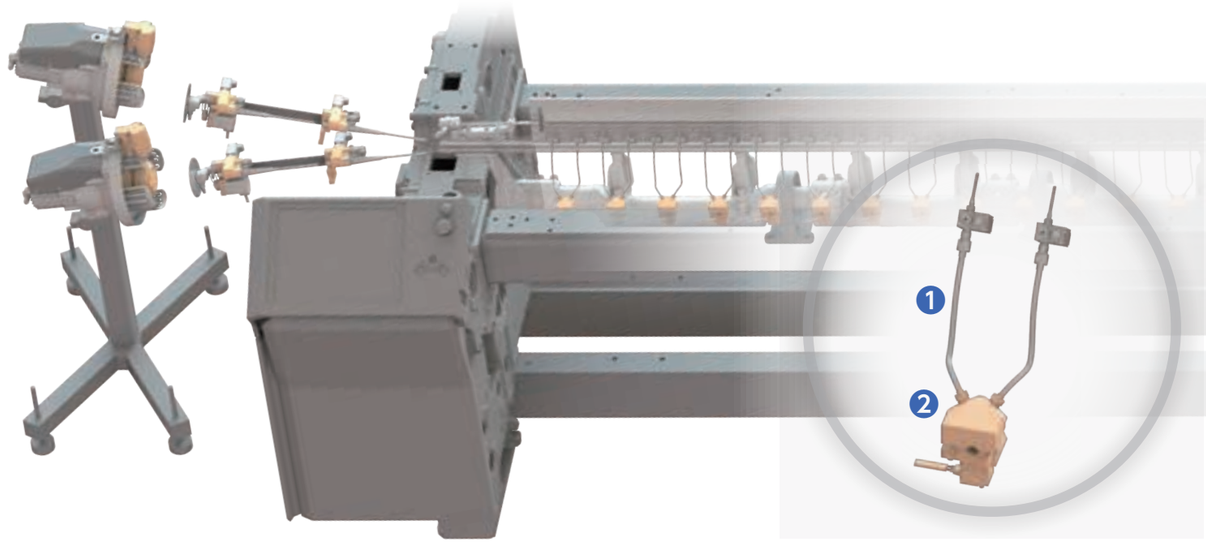
Reduced shedding amount



Synergy of cam beating and TAP: *Low vibration*

Cam beating was likely to increase vibration in existing models.
In the ZAX001neo Plus, the cam curve is especially designed for jet looms, significantly suppressing vibration.
With the combination of TAP (Tsudakoma Advanced Platform), vibration is further reduced in the entire loom.

Neo Weft Insertion System



Neo valve system

In pursuit of high performance,
TSUDAKOMA offers an innovative system
with advanced air-saving performance.

1 Valve positioned close to the sub-nozzles

The piping layout between the valve and the sub-nozzles is fully improved.
The entire sub-nozzle system, including valves, nozzles and electric control, achieves ideal jetting efficiency.

2 Highly efficient manifold PAT.P

A high-efficiency manifold is adopted exclusively for the Neo valve system with optimized air flow passage inside the manifold.

FDP-AIV Electronic Free Drum Pooling system

The storage amount of wefts at startup and during at-will motion for multi-colors can be unstable. However, with the newly-adopted high-performance motor, the acceleration performance is greatly enhanced, and stable weft insertion is assured.
Provided with a feeding mechanism positively separating wefts, the FDP-AIV handles a variety of weft types.
It is also possible to change winding direction according to twisted yarns on the Navi-board window.
* Drum diameter simple adjustment function is provided as standard. (One-touch type)

Yarn storage sensor Option

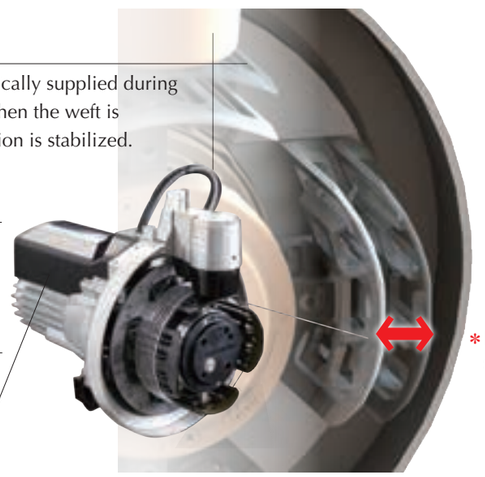
Weft storage can be monitored and weft is automatically supplied during operation. Stress to the weft due to the resistance when the weft is released from the drum is minimized, so weft insertion is stabilized.

Yarn breakage sensor

Contactless type. Package sensor is not required. *
* For multi-pick insertion, the package sensor is required.

Release sensor

Weft insertion status is monitored.



TAP Tsudakoma Advanced Platform

Direct gear drive

1 Ultra-high-speed performance is achieved.

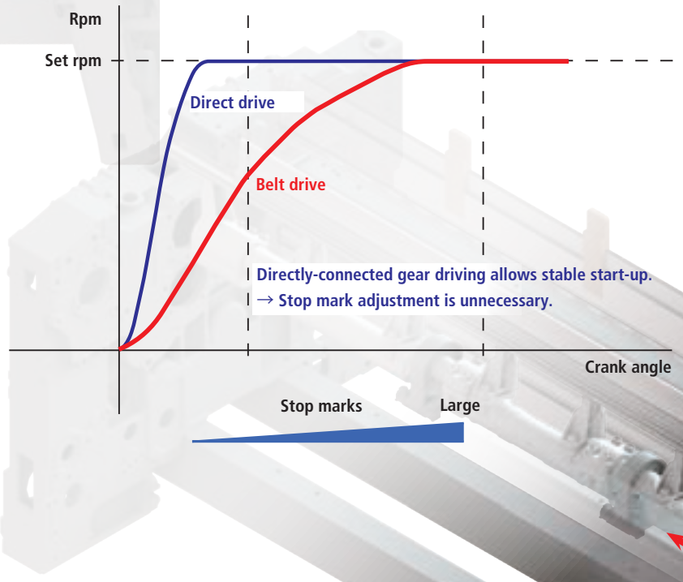
Stable driving and improved durability are provided in rpm ranges that cannot be achieved with a belt-drive system.

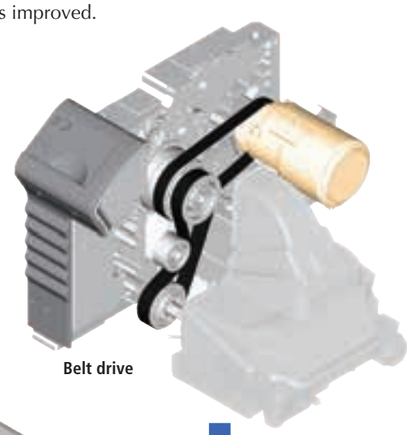
2 Directly-connected gear driving allows stable start-up.

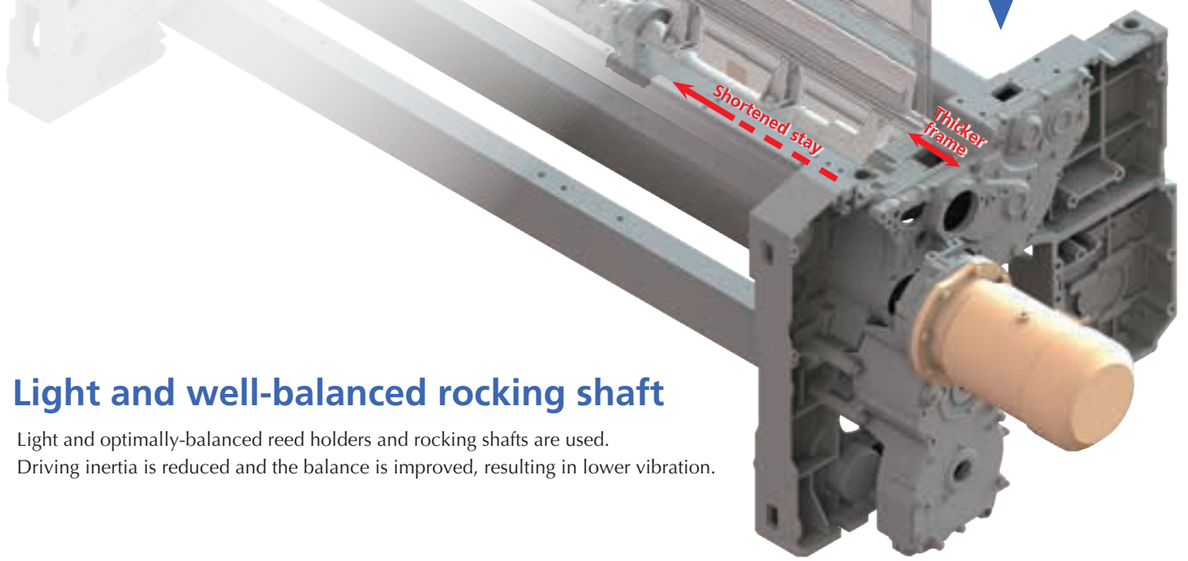
Stop marks are drastically reduced, improving quality, and significantly reducing adjustment time.

3 Maintenance free

No need to replace consumable parts, no need to control belt tension, and safety is improved.




Belt drive



Light and well-balanced rocking shaft

Light and optimally-balanced reed holders and rocking shafts are used.
Driving inertia is reduced and the balance is improved, resulting in lower vibration.

Specially designed frame structure

The rib-structured frame with integrated let-off frame and shortened stays produces higher robustness. It contributes to ultra-high-speed operation and vibration reduction.

Options

A wide range of devices are available as options.

High quality | Energy and resource saving | High productivity | Operability | Versatility | Automation

Twin auxiliary main nozzles

The twin auxiliary main nozzles contribute to increased weft feeding force and allow stable high-speed operation. The main nozzle pressure is reduced, resulting in decreased yarn breakage and improved loom operation.

EIS-II Electronic Independent Selvage motion

PAT.P

The driving system is completely changed. A new driving motor and lightweight driving section respond to higher speed operation. It is possible to set the shedding amount, shedding timing, shedding pattern, and dwell with the Navi-board.

ZTNII Needleless tuck-in device

PAT.P

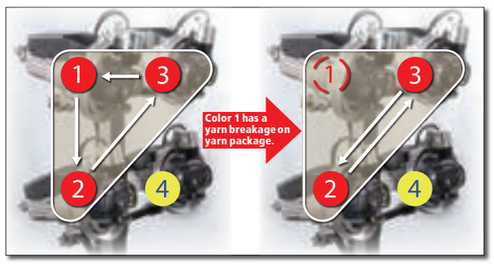
It is not necessary to cut the reed with the ZTNII Needleless tuck-in device. The previous ZTN required cutting according to the reeding width. The ZTNII prevents interference between the reed and tuck-in head. Permissible speed of the ZTNII is greatly increased in comparison with previous ZT and ZTN. The ZTNII improves productivity.

APR-III Automatic defective Pick Remover

The compact APR-III Automatic defective Pick Remover substantially improves workability during weft repair. Defective yarns are discharged to the trash box enabling easy collection. The cutter specially designed for the APR is placed at a stable position, resulting in longer service life of the cutter components. Using a mechanical sensor, the detection accuracy of the defective colored yarn is increased.

BFS III Back-up Feeder System

The BFS III stops the weft insertion of the color with yarn breakage on the yarn package and continues loom operation with the other colors. For example, even if Color 1 has yarn breakage on the package while a fabric is woven, the loom continues to operate with Colors 2 and 3.



FSC Fuzzy Speed Control

The FSC Fuzzy Speed Control detects a drop in main pressure with a pressure sensor installed in looms and weft arrival monitoring function, and can automatically reduce the loom speed. This system prevents fabric defects due to insufficient weft feeding force when the loom's main pressure drops.

CCL Catch Cord-Less

The weft entered in the stretch nozzle is caught and held by an ejector mouth and is cut by a selvage cutter every several picks. Catch cords are not required, leading to resource saving. Catch-cord problems are eliminated and machine operation is improved.

AGB Adjustable Guide Bar

PAT.

Style-change time is significantly reduced. Without cutting the guide bar according to the reeding width, it is easy to adjust the guide bar length. The guide bar sits in the reed tunnel and the cloth fell is supported, allowing stable operation.

ACI-II Air Consumption Indicator

Actual air flow amount is displayed on the Navi-board provided with an airflow meter and an air-pressure sensor in the loom. It is also possible to set the threshold value of the main pressure and airflow with the Navi-board. An alarm code is indicated if an abnormal value is detected, preventing quality defects. The defective valve can also be easily found.

FIC Fuzzy Insertion Control

The FIC Fuzzy Insertion Control automatically controls the main nozzle pressure in order to always keep stable weft arrival timing. As the yarn package diameter changes, and also depending on weft types, weft arrival timing can fluctuate considerably. The FIC system is effective for those wefts, contributing to improved quality and stable operation.

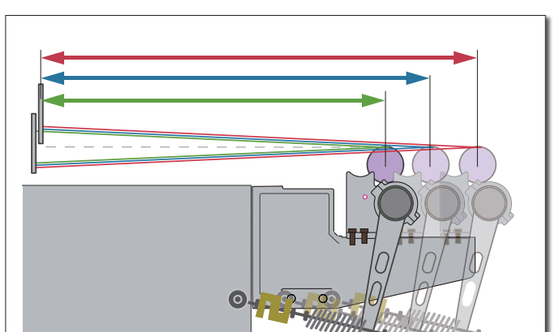
Best for filament weaving

F-2N negative let-off

For filament warp, negative let-off is suitable. It improves the performance of warp, making soft to warp and highly resistant to breakage even for ultra-fine warp. High quality and stable operation are ensured.

3-step switching distance between heald frame and tension roll

It is possible to change position of the tension roll according to the warp, allowing high versatility of weaving.
(For the flange diameter of 914 mm or 1,000 mm)



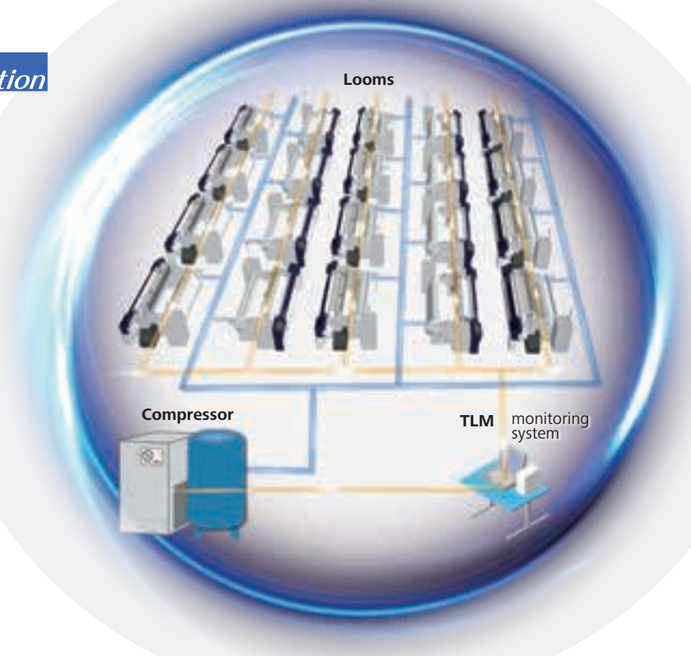
Weave Navigation® System - II

The weaving support system that TSUDAKOMA developed as one of the world's leaders is upgraded to the outstanding user-friendly Weave Navigation® System-II. The loom itself leads to the optimum weaving conditions for a wide variety of fabrics.

Smart Air Grid Option

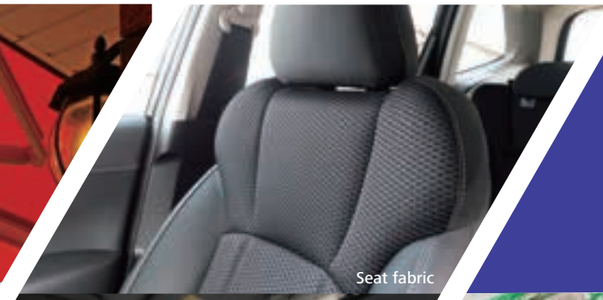
Automatic adjustment system for compressor pressure

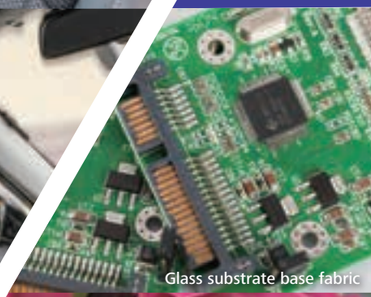
By monitoring pressure required for loom with the TLM (Tsudakoma Loom Monitoring system), and by automatically adjusting compressor pressure, it is possible to save compressor power energy.

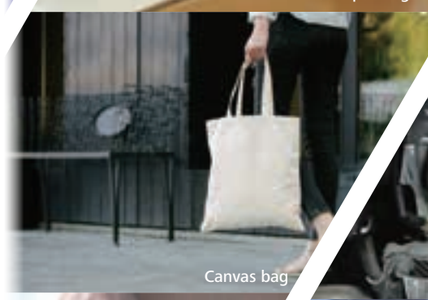


Expanded applications of the ZAX001neo Plus

TSUDAKOMA responds to diverse technical fabrics.







Click here for the dedicated website for technical fabrics.
www.tsudakoma.co.jp/english/business/textile/technical/index.html

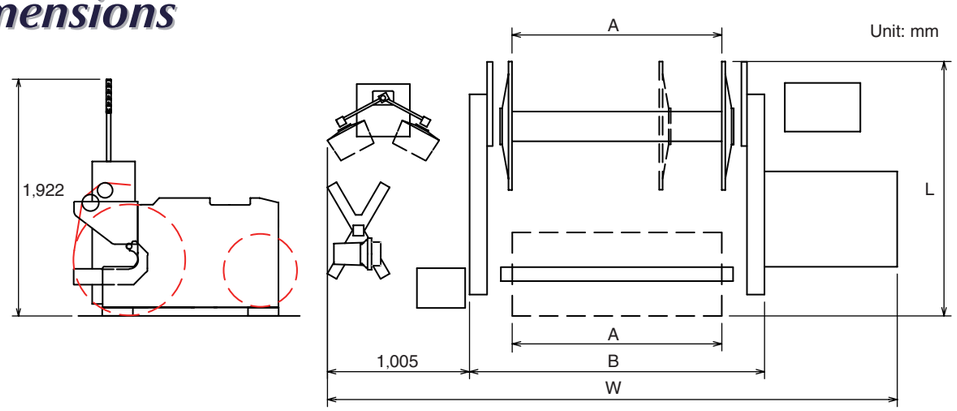
Preparatory machines for technical fabrics

Full support for weaving technical fabrics from the warp yarn preparation process

TSE10G GLASS SIZING MACHINE
TB20G GLASS BEAMER
TB30F BEAMER High-tension type

Dimensions

Unit: mm



Reed space (cm)		150	170	190	210	230	250	280	340	360	390
W	Positive cam	4,076	4,276	4,476	4,676	4,876	5,076	5,376	5,976	6,176	6,476
	Floor-mounted positive dobby	4,208	4,408	4,608	4,808	5,008	5,208	5,508	6,108	6,308	6,608
A		1,500	1,700	1,900	2,100	2,300	2,500	2,800	3,400	3,600	3,900
B		2,080	2,280	2,480	2,680	2,880	3,080	3,380	3,980	4,180	4,480

	Flange diameter	Cam	Dobby
L	ϕ800	1,735	1,795
	ϕ914	1,845	1,905
	ϕ1,000	1,914	1,974
	ϕ1,100	2,035	2,095

Note 1: For details on other specifications, contact TSUDAKOMA.
Note 2: When the flange diameter is 914 mm or more, liners are required.
Note 3: "W": The dimensions for 2-color loom with the *i*-WBS or for 4-color loom. For details on other specifications, contact TSUDAKOMA.
Note 4: Photographs, drawings, and data in this brochure are subject to change for improvement without notice.
Note 5: Some photographs in this brochure include optional devices.
Note 6: In some specifications, the let-off bracket is provided in the backmost position. For detailed dimensions, contact TSUDAKOMA.

Preparatory machines for full support for jet loom operations

T-Tech Japan's preparatory machines, including the sizing machines of world-leading performance and quality, accurately respond to the rapidly changing market needs and offer a total solution for the weaving process.

TTS30S SPUN SIZING MACHINE

TTS30S Spun Sizing Machine uses the vertical yarn sheet pulling system providing easy operation and even-sized yarns. With the Sizing Navigation System, higher operability, operation management, and quality control are achieved. Fine-tuned control provides outstanding energy-saving performance, greatly contributing to superior loom operations.

TSE30F FILAMENT SIZING MACHINE

T-Tech Japan has a leading market share for filament sizing machines. **TSE30F Filament Sizing Machine** meets market demands, providing stable tension control ranging from the lowest 20 N to the highest 800 N.

T-Tech Japan
www.t-techjapan.co.jp

Specifications

Item		Specification	Option
Reed space	Nominal (cm)	150, 170, 190, 210, 230, 250, 280, 340, 360, 390	
	Useful reeding widths	Maximum width reduction: - Up to 60 cm (150, 170, 190, 210, 230, and 250 cm) - Up to 80 cm (280, 340, 360 and 390 cm)	Maximum width reduction: - Up to 80 cm (190, 210, 230, and 250 cm)
Frame		TAP Tsudakoma Advanced Platform	
Weaving range		Spun yarns: Ne 100 ～ Ne 2.5 Filament yarns: 17 dtex ～ 1,350 dtex	
Weft selection		2 colors, 4 colors, 6 colors and 8 colors	
Machine power	Drive	Direct gear drive: 3.7 kw and 5.5 kw	SYSTEM EOS（Highly-efficient driving motor）
	Start	Rush-start motor drive ***i***-Start Push-button operation with both hands Inverter slow inching operation (Forward and Reverse)	
Weft insertion		System S･Plus Neo Weft Insertion System Auxiliary main nozzle, Stretch nozzle	Twin auxiliary main nozzles
	Control	AJC-S⁺ Plus Auto Jet Control ACI Air Consumption Indicator First pick control Neo valve system Independent sub-nozzle timing control by color Sub-nozzle boosting system Independently timing-controlled auxiliary main nozzle	***i***-WBS Weft Brake System WBS Weft Brake System FIC Fuzzy Insertion Control Main nozzle for core spun yarns ACI-II Air Consumption Indicator
	Measuring and storage	FDP-AIV Electronic Free Drum Pooling (with advancing reel system) FDP Drum diameter simple adjustment (one-touch) type Yarn breakage sensor	Yarn storage sensor Balloon breaker
Shedding		Crank, Positive cam, Positive dobby (Electronic/Floor-mounted), Jacquard	Auto-leveling (Positive cam) Selvage-name Jacquard EIS-II Electronic Independent Selvage motion
Let-off		Positive easing motion, Negative easing motion	Twin beam, Double beam, EU standard beam
	Flange diameter	800 mm, 914 mm, 1,000 mm, 1,100 mm	
Take-up		Provided with automatic density change function (32 densities)	
	Maximum on-loom take-up diameter	600 mm: Cam, Dobby, and Jacquard 520 mm: Crank	720 mm Off-loom take-up device
	Pick density	5.9~118.1 picks/cm (15~300 picks/inch)	
	Temple	Top-mounted type 14 mm guide bar	AGB Adjustable Guide Bar Adjustable guide bar exclusive for filament
Beating		4-link (Reed space: 150, 170, 190, 210, and 230 cm) Cam (Reed space: 250, 280, 340, 360 and 390 cm)	Cam (Reed space: 150, 170, 190, 210, and 230 cm)
		Light and well-balanced rocking shaft, Light reed holder	
Weft supply stand		Floor mounted for 4 packages (2-color), Floor mounted for 8 packages (4-color), Floor mounted for 10 packages (6-color)	
Selvage		Mechanical planetary leno motion	EPL Electronic Planetary Leno motion ZTN II Needle-less Tuck-in device (Left & right/Intermediate) ZT Needle Tuck-in device (Left & right/Intermediate) Center leno motion
Waste weft removal		Catch cord taken-up with two rolls Catch cord taken-up with a gear Mechanical waste-selvage cutter	CCL Catch Cord-Less Independent shedding motion for catch cord Electric waste-selvage cutter
Cutter on the yarn supply side		Mechanical vertical type, Electric vertical type	Electric horizontal type
Lubrication		Oil bath system for main driving sections Centralized lubrication (manual grease supply)	Centralized lubrication (automatic grease supply)
Stop motion	Weft	Reflective feeler	3-eyed feeler Non-reflection feeler Narrow-head feeler
		One-head system Two-head system	Package sensor (only for multi-pick) Pick-tail sensor Tail discharge function
	Warp	Electric 6-row contact bar system	Row number indication, Left and right area indication
	Stop cause indication	Message indication on the Navi-board 4-color multi-function indication lamps	
Weave Navigation® System-II	Navi-board	Automatic data setting, Recommended data indication, Optimum operation condition guide, Automatic control, Troubleshooting, Self-diagnosis function,Operation and maintenance information, Weaving advice, Instruction manual and part catalog browsing	
	Network connection	TLM Tsudakoma Loom Monitoring system	Smart Air Grid
Automation			BFSIII Back-up Feeder System FSC Fuzzy Speed Control APR-C/APR-III Automatic defective Pick Remover

Note: For details, contact TSUDAKOMA's agent or our sales staff.

TSUDAKOMA Corp.

www.tsudakoma.co.jp

ISO 9001 14001

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