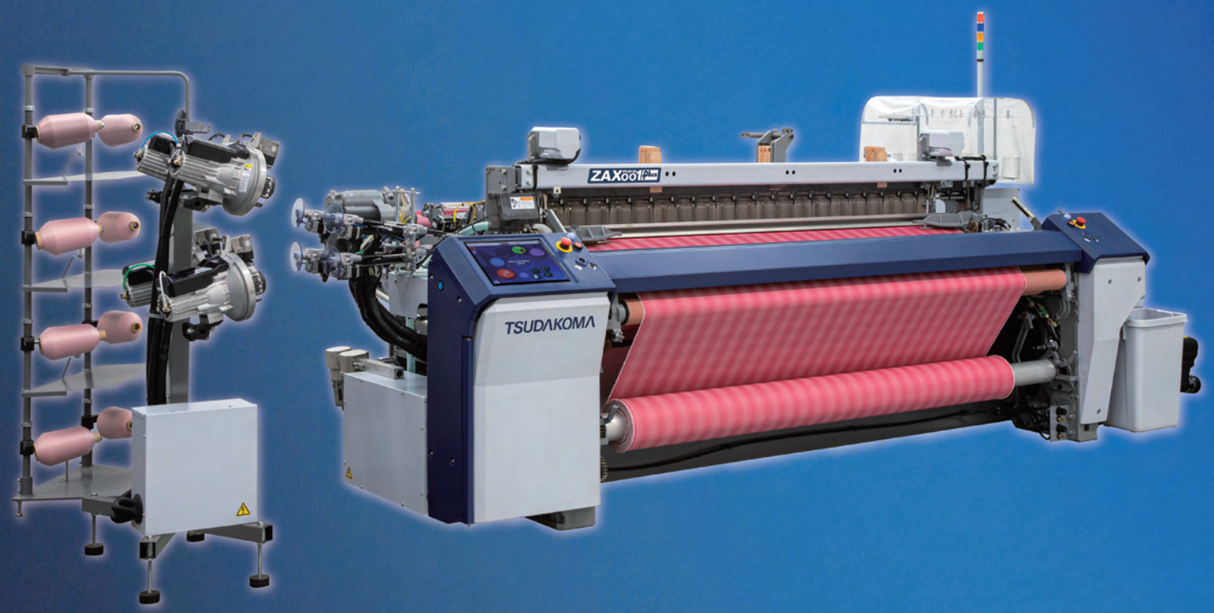
TSUDAKOMA

ZAX neo 001 Plus

ZAX neo 001 Terry

AIR JET LOOM

ZAX neo 001 Plus AIR JET LOOM

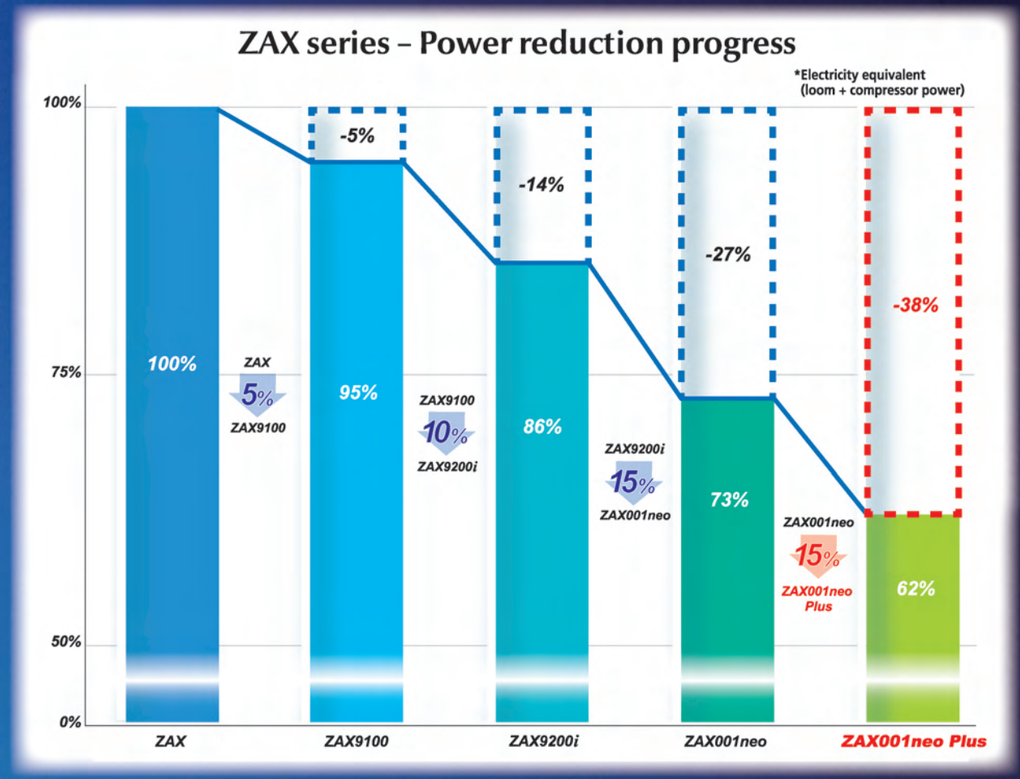


New

Outstanding Energy-Saving Technology

SYSTEM S・Plus + SYSTEM EOS

Advancing energy efficiency for a more sustainable society



Inheriting neo-ism

World-Leading Ultra-High-Speed Performance

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

Neo Weft Insertion System

TAP Tsudakoma Advanced Platform

Comprehensive Support for Superior Quality

Cam Beating System

TAP Tsudakoma Advanced Platform

Weave Navigation® System-II

Robust Frame Structure

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

TAP Tsudakoma Advanced Platform

New

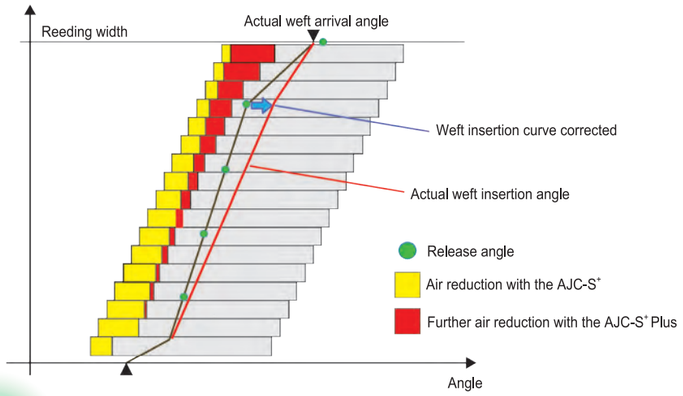
Outstanding Energy-Saving Technology

ZAX neo 001 Plus AIR JET LOOM

SYSTEM S·Plus

AJC-S⁺Plus Auto Jet Control

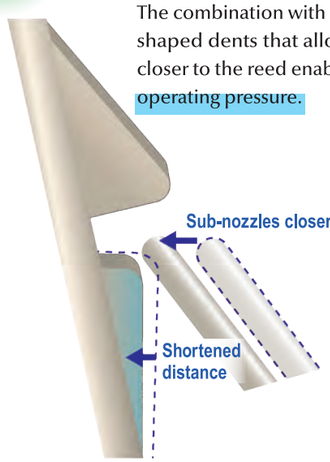
By controlling the lead angle of the sub-nozzles in accordance with the actual weft insertion timing more accurately, the system achieves even greater air savings compared to the conventional AJC-S⁺.



Sub-nozzles positioned extremely close to the reed

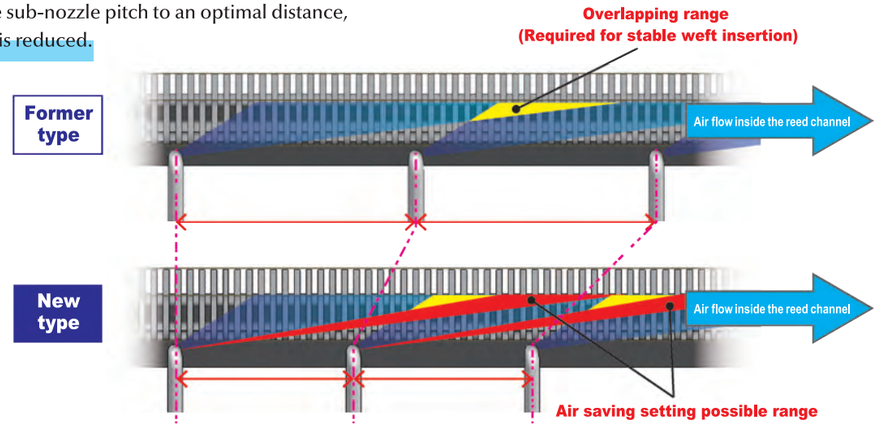
Option

The combination with a dedicated reed featuring specially shaped dents that allow the sub-nozzles to be positioned closer to the reed enables further air savings and reduced operating pressure.



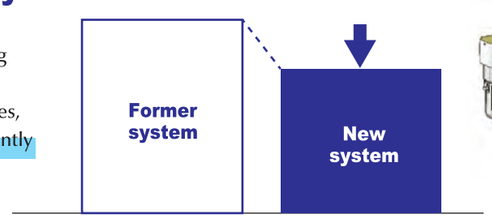
New sub-nozzles with shortened pitch

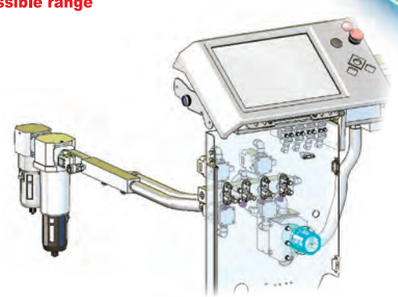
By shortening the sub-nozzle pitch to an optimal distance, air consumption is reduced.

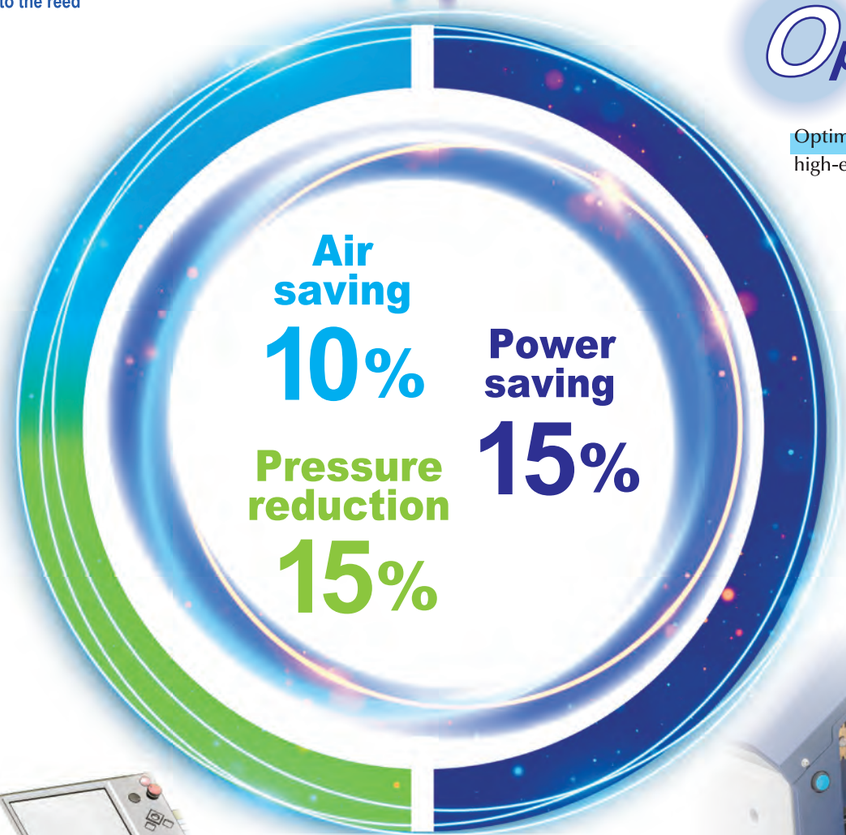


Pressure loss reduction system

A high-efficiency regulator is adopted for setting pressure for the sub-nozzles.
By optimizing the air piping routes and pipe sizes, pressure loss within the loom system is significantly reduced.







Note 1: Compared to the existing ZAX001neo.
Note 2: Values shown are with options.
Note 3: Values may vary depending on specifications and fabric.

SYSTEM EOS Option

Efficiency

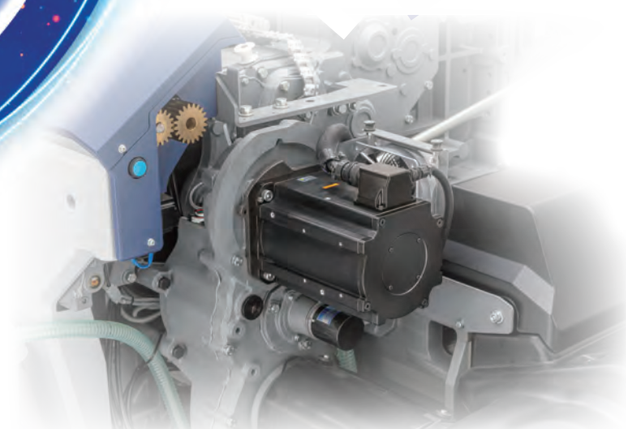
A high-efficiency drive motor that allows a significantly expanded settable loom speed range (Specially developed motor)

Optimization

Optimized drive system maximizing high-efficiency drive motor performance

Saving Energy

New inverter with original software for energy-saving drive



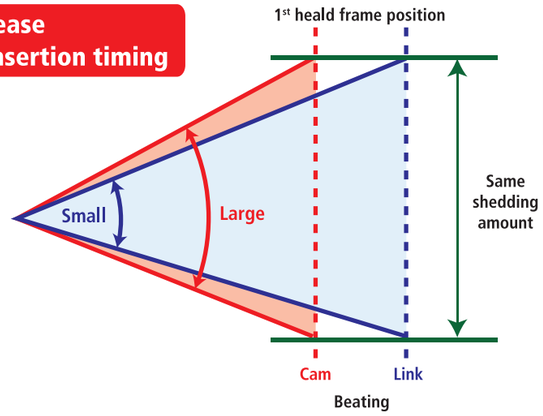
Cam Beating System

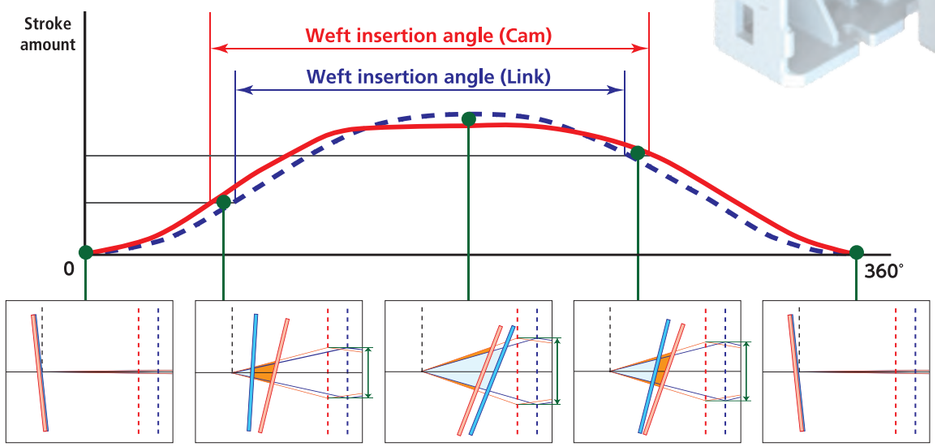
A cam beating system suitable for jet looms is employed.
By supporting customers from multiple perspectives, this system is the best solution for expanding weaving possibilities.

Expanded Versatility and Improved Weaving Performance enabled by a large weft insertion angle

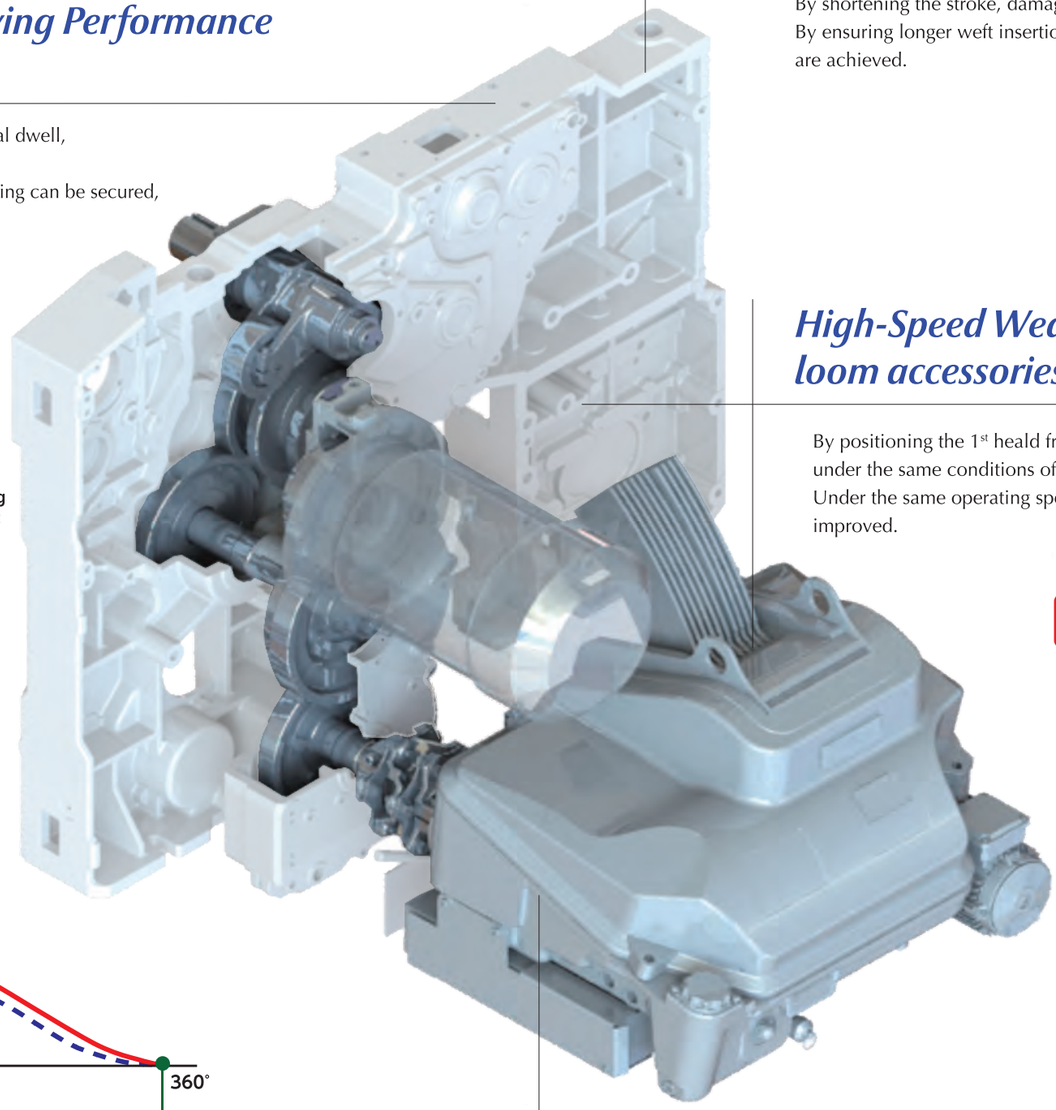
Compared to existing models, the cam beating system is designed with a physical dwell, achieving a 10% increase in time and space for weft insertion.
Under the same conditions of warp shedding amount, a larger weft insertion timing can be secured, allowing more challenging weft insertion.

10% increase in weft insertion timing





A lineup of various dwell options is available. We propose the optimal specifications.



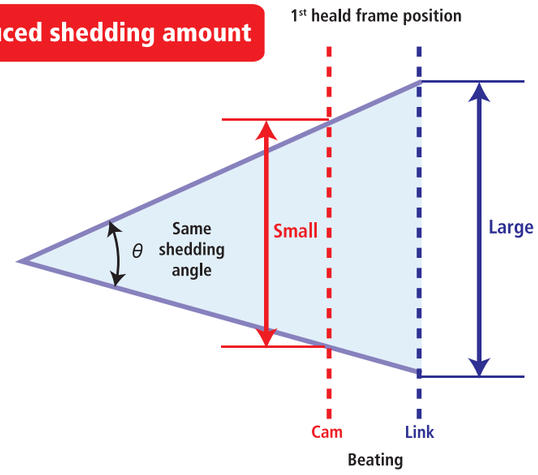
Cam beating achieves Superior Quality, Air-Saving, and Low Pressure

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

High-Speed Weaving and Enhanced Durability of loom accessories through frame proximity

By positioning the 1st heald frame closer to the beating point, shedding amount can be reduced under the same conditions of weft insertion timing, contributing to high-speed weaving.
Under the same operating speed conditions as our existing models, the durability of loom accessories is improved.

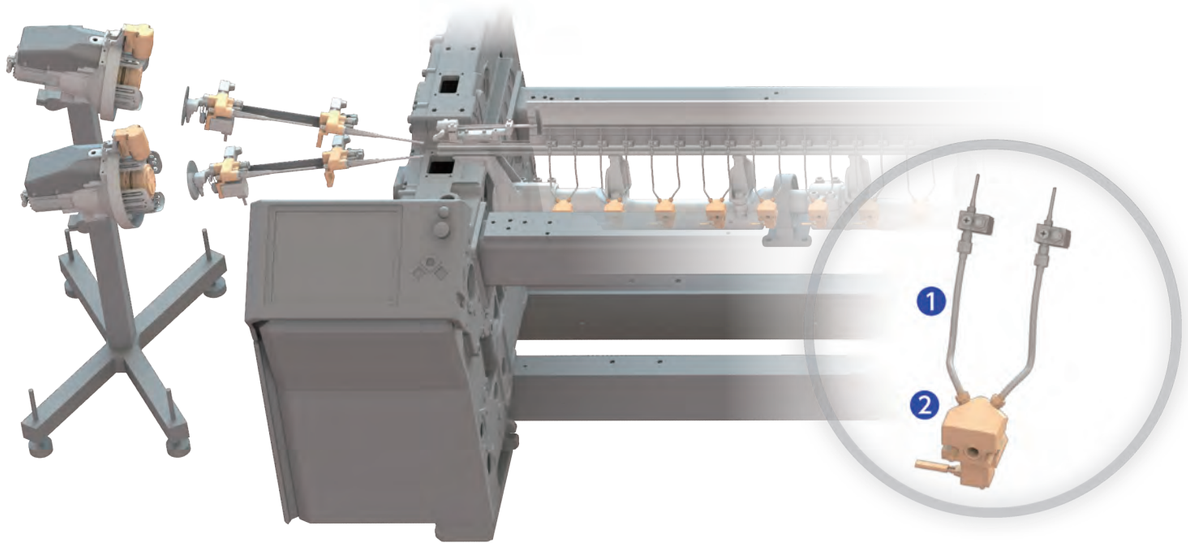
Reduced shedding amount



Synergy of cam beating system and TAP (Tsudakoma Advanced Platform) - Low Vibration

Cam beating tended to exacerbate vibration. By adopting a cam profile designed specifically for jet looms, vibration is significantly suppressed. Furthermore, TAP enables low vibration throughout the entire loom.

Neo Weft Insertion System



Neo valve system

An innovative system with significantly reduced air consumption through an uncompromising pursuit of performance.

① Valve positioned close to the sub-nozzles

The piping layout from the valve to the sub-nozzles is completely redesigned. Optimized jetting efficiency for the entire sub-nozzle system is ensured.

② High-efficiency manifold PAT.

A high-efficiency manifold dedicated to the Neo valve system, with optimized internal air flow passage, is employed.

FDP-AIV Electronic Free Drum Pooling system

A high-performance motor is employed to significantly enhance acceleration performance.
By minimizing fluctuations in weft storage during start-up and at-will motion for multi-colors, stable weft insertion is achieved.
A feeding mechanism that actively separates the yarn enables handling a wide variety of weft yarn types.
The winding direction can be set on the Navi-board according to the yarn twist.
* Equipped as standard with an easy drum diameter adjustment (One-touch type).

Yarn storage sensor Option

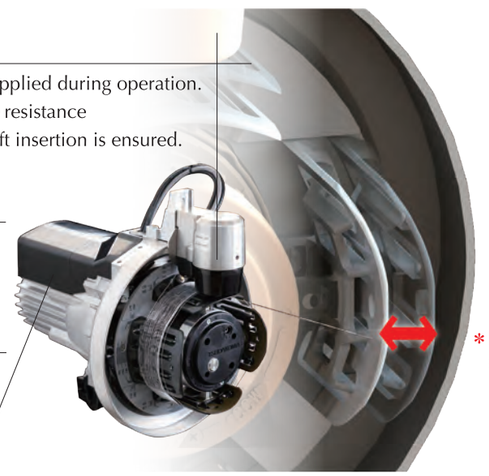
The weft storage is monitored and automatically supplied during operation.
By minimizing the load on the weft yarn due to the resistance when the weft is released from the drum, stable weft insertion is ensured.

Yarn breakage sensor

Non-contact sensor. No package sensor required.*
*A package sensor is required for multi-pick insertion.

Release sensor

Monitors the weft insertion condition.



TAP Tsudakoma Advanced Platform

Direct gear drive PAT.

① Ultra-high-speed performance achieved

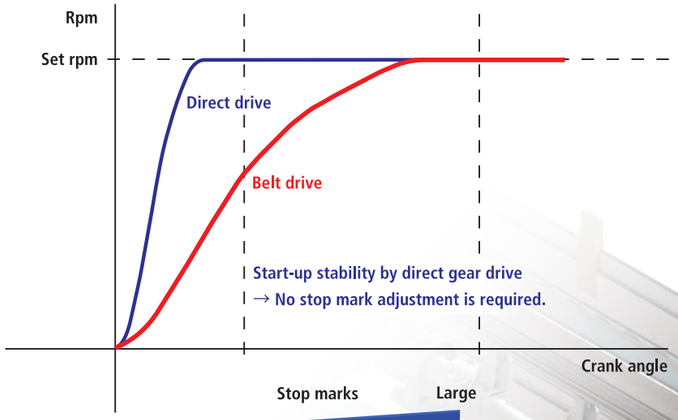
Stable operation and improved durability are provided in rotational ranges that cannot be achieved with belt drives.

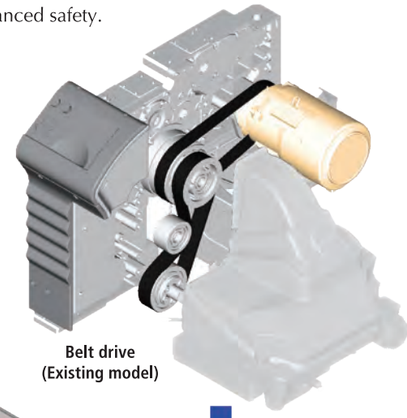
② Start-up stability achieved by direct gear drive

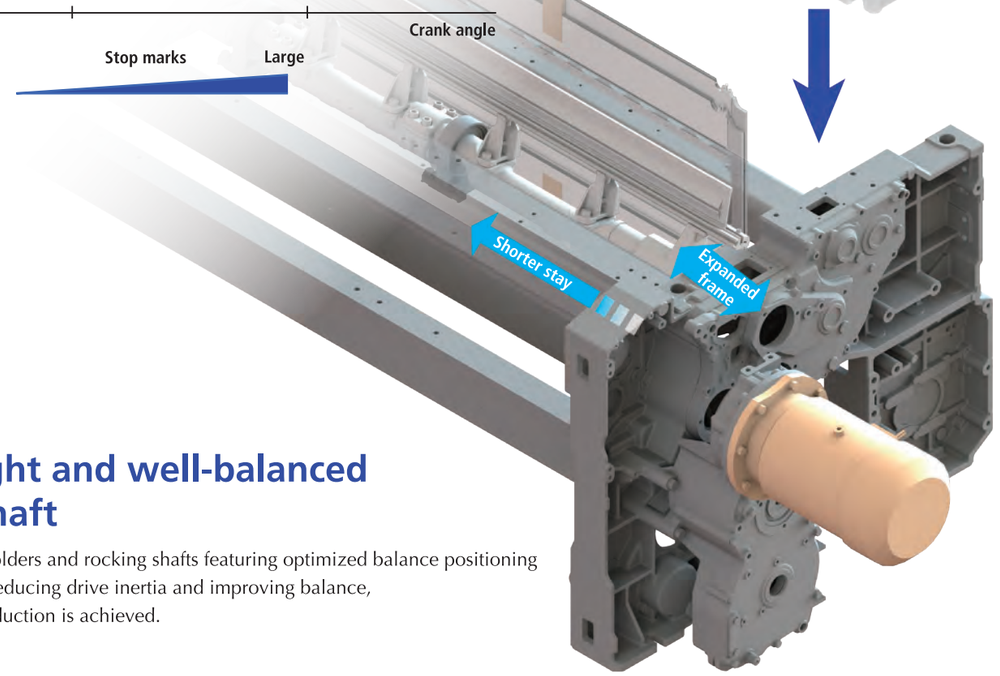
A drastic reduction in stop marks contributes to improved quality and significantly reduced adjustment time.

③ Maintenance-free

No replacement of worn parts required. No belt tension adjustment required. Enhanced safety.







Lightweight and well-balanced rocking shaft

Lightweight reed holders and rocking shafts featuring optimized balance positioning are employed. By reducing drive inertia and improving balance, further vibration reduction is achieved.

Specially designed frame structure PAT.

The main frame features a ribbed structure, which integrates the let-off frame and reduces the overall length of stays, achieving higher robustness.
This contributes to ultra-high-speed operation and reduced vibration.

ZAX neo 001 Terry AIR JET LOOM

New

Versatile
Next-Generation Terry Loom
realizing high-speed and high-precision

Air saving 15%

Pressure reduction 15%

Productivity improvement 10%

*1. Compared to the ZAX9200*i* Terry.
*2. Values may vary depending on specifications and fabric.

Inheriting neo-ism

Outstanding Energy-Saving Technology

SYSTEM S・Plus

SYSTEM EOS

World-Leading High Productivity and High-Speed Performance

Neo Weft Insertion System

Robust Frame Structure
TAP Tsudakoma Advanced Platform

New ETS Electronic Terry System

-For Terry Weaving-
Cam Beating System

Comprehensive Support for Superior Quality

Robust Frame Structure
TAP Tsudakoma Advanced Platform

-For Terry Weaving-
Cam Beating System

Weave Navigation® System-II

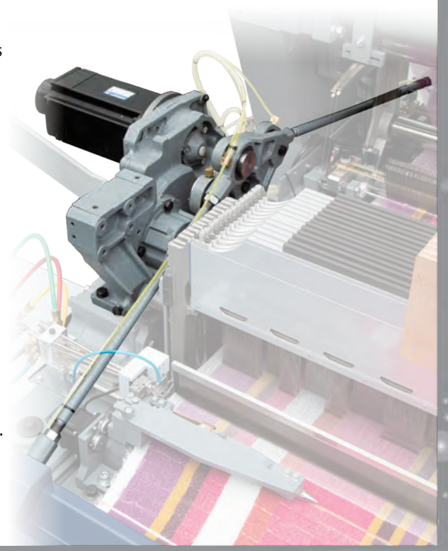
New
Engineered with passion in every pile.

ZAXneo001Terry AIR JET LOOM

NEW

New ETS Electronic Terry System

Optimized design of the ETS motor, gear box, and link mechanism delivers exceptional high-speed performance and superior durability.



High-speed performance

A newly developed gear box enables ETS motor to deliver its full performance.
Further optimization of the link mechanism increases the maximum speed of the terry system.

Durability

An oil circulation system using an oil bath is employed.
Oil circulation throughout the entire gear box minimizes component wear, significantly contributing to reduced maintenance frequency and enhanced durability.

TMC Terry Motion Control

By controlling tension fluctuation of pile yarn accurately and optimally with a servo motor, pile pulling is reduced to an absolute minimum, consistently producing uniform and beautifully finished piles.

Optimal tension control

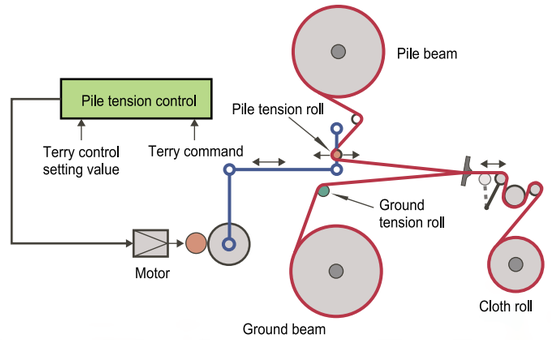
Pile warp tension control ideal for pile formation is employed.
Pile quality and texture of pile are improved and stable operation is achieved by preventing defective shedding of the pile warp.

Stop mark prevention

Pile pulling is prevented by relaxing the pile tension during warp stop.

Dual-side drive TMC

The dual-side drive TMC is provided as standard on wide-width loom specifications, which represent the core segment of the market.
Stable and high-quality pile formation is achieved even at high speeds and under high tension.



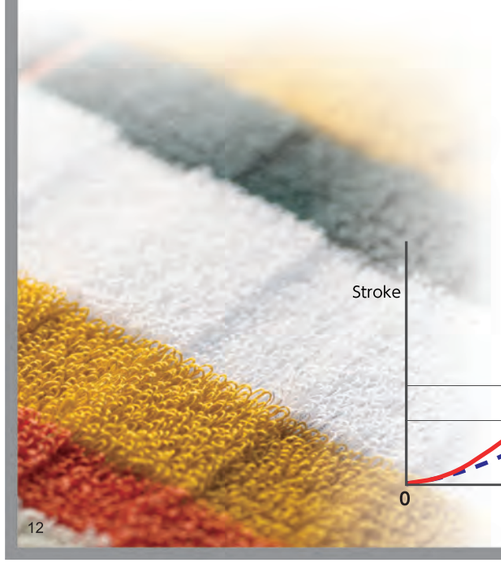
World-Leading High Productivity and High-Speed Performance

Comprehensive Support for Superior Quality

NEW

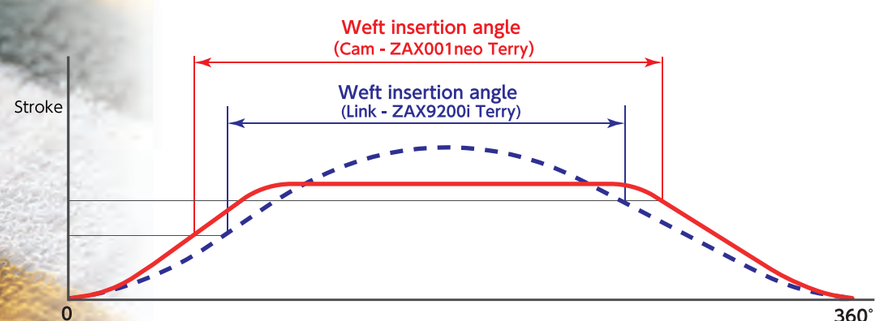
Cam Beating System -For Terry Weaving-

A cam profile optimized for terry weaving is applied to the cam beating used in the ZAX001neo series.
Along with excellent weaving performance, comprehensive performance improvements such as air savings and reduced vibration provide strong support for customers' terry weaving.



Improved Productivity

By adopting a cam beating for terry weaving, weft insertion angle is increased, extending weft insertion time and enabling higher operating speeds.
Under the same warp shedding amount, the shedding angle is expanded, resulting in an even longer weft insertion time.
High-speed operation and high operational efficiency are achieved.

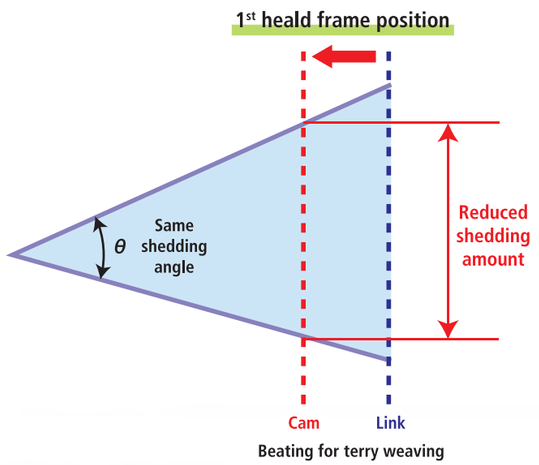


Enhanced pile quality

Shorter stroke and optimized positioning of the 1st heald frame closer to the beating point improve pile quality.

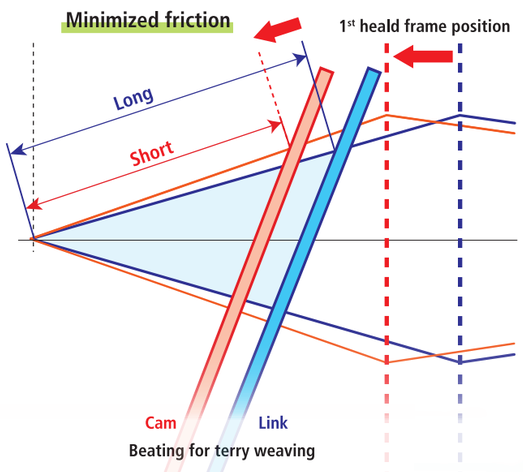
The 1st heald frame positioning closer to beating point realized

By minimizing warp yarn distortion, pile pulling is reduced.



Minimized friction with warps

By minimizing stress and fluff in pile yarns, pile quality is improved.



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

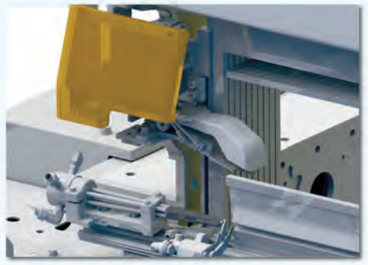
ZAX neo 001 Plus

ZAX neo 001 series
Common Options

ZAX neo 001 Terry

APR-III Automatic defective Pick Remover

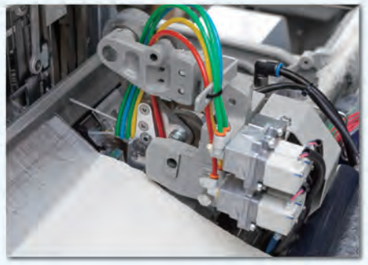
A compact design of the APR-III significantly improves accessibility during weft yarn repair. Defective yarn is discharged into the selvage waste dust box for easy collection.
The APR-dedicated cutter is fixed in position, contributing to the extended service life of the cutter components. Additionally, the adoption of a mechanical sensor enhances the detection accuracy of defective-colored yarns.



ZTN II Needle-less tuck-in device

PAT.

The ZTN-II Needle-less tuck-in device prevents interference between the reed and tuck-in head, eliminating reed cutting that was required with the previous ZTN depending on the reeding width. It also features a significantly higher permissible speed than previous ZT and ZTN, enhancing productivity.



EIS-II Electronic Independent Selvage motion

PAT.

The drive system is completely redesigned. Weight reduction and a newly developed drive motor support further high-speed operation. The shedding amount, shedding timing, shedding pattern, and dwell can be set with the Navi-board.

Double beam

Independently controlled warp tension and easing mechanisms for the top and the bottom are equipped. Improved fabric quality and stable operation, even for weave structures with a combination of different numbers of crossing points, are ensured.

ACI-II Air Consumption Indicator

An airflow meter and air-pressure sensor are provided on the loom, and the actual air flow rate is displayed on the Navi-board. Arbitrary threshold values for supply pressure and air flow rate can be set and alarms are displayed when abnormal values are detected, helping to prevent quality defects.
The defective valves can be easily identified.

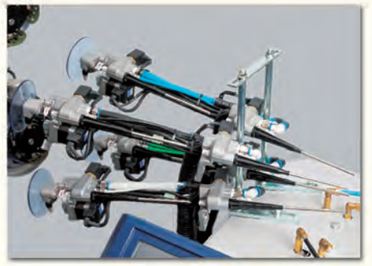
AGB Adjustable Guide Bar

PAT.

Equipped with a mechanism that enables easy length adjustment to match the reeding width without cutting the guide bar, style change time is significantly reduced. The guide bar extends into the reed tunnel to support the cloth fell, contributing to stable operation.

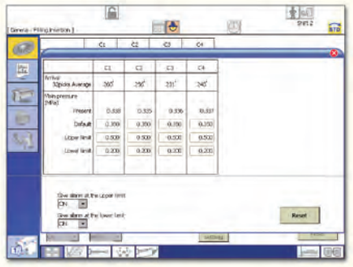
Twin auxiliary main nozzles

The twin auxiliary main nozzles contribute to enhanced weft insertion force, achieving stable high-speed operation.
Main nozzle pressure is lowered, reducing yarn breakage and contributing to enhanced loom operation.



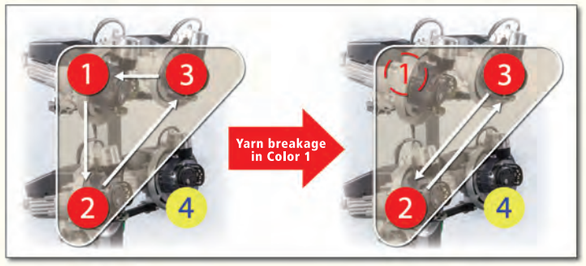
FIC Fuzzy Insertion Control

The FIC Fuzzy Insertion Control automatically controls the main nozzle pressure to always maintain optimal weft arrival timing. It is effective for weft yarns whose arrival timing fluctuates significantly due to package diameter changes and yarn variations, contributing to improved quality and stable operation.



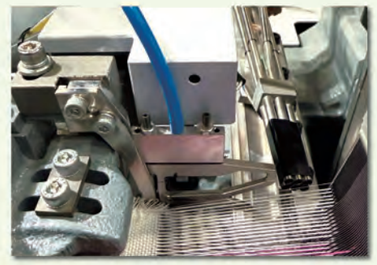
BFS III Back-up Feeder System

The BFSIII is a function that stops weft insertion for the color affected by yarn breakage and allows continuous loom operation using the remaining colors. For example, even when a yarn breakage occurs in Color 1 during weaving, the loom continues operation using the remaining colors 2 and 3.



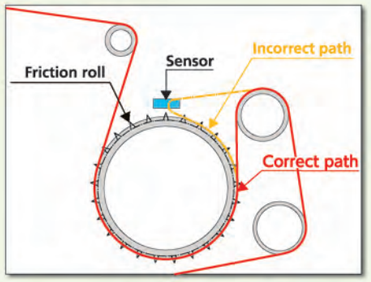
Electric Yarn Catcher

This device grips the weft yarn on the yarn supply side and controls the gripping operation with a solenoid. By opening the yarn catch section when filament yarns such as rayon or thick yarns during border weaving are used for weft insertion, filament breakage and weft bending can be prevented, reducing cutting errors and enhancing machine productivity.



Anti-miswinding function

A sensor detects a cloth mis-wound around the friction roll and stops the loom.



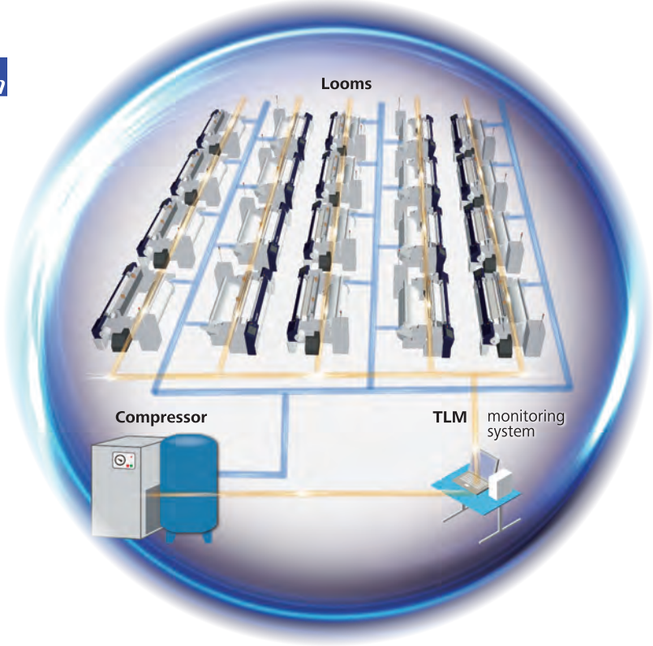
Weave Navigation® System - II

Weave Navigation® System-II is an upgraded version of TSUDAKOMA's weaving support system, pioneered ahead of the world, delivering significantly improved usability. To ensure optimal weaving conditions for a wide variety of fabrics, the loom itself navigates the operator.

Smart Air Grid Option

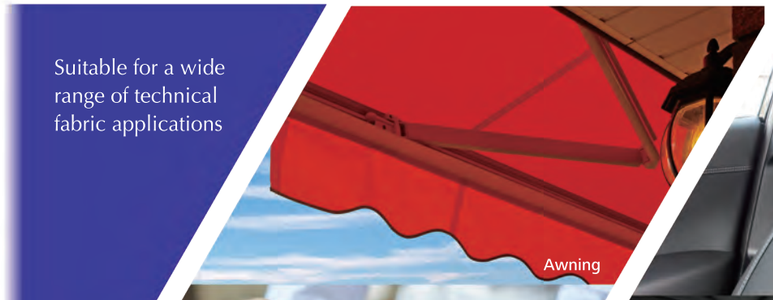
Automatic adjustment system for compressor pressure

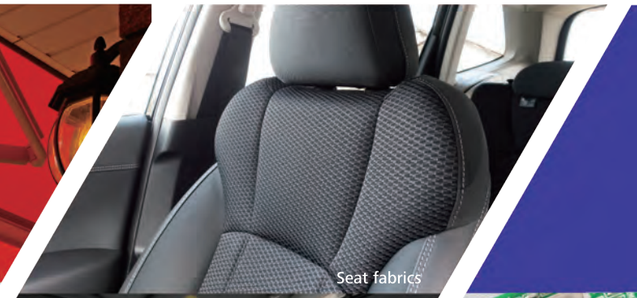
Using TLM (Tsudakoma Loom Monitoring system), the pressure required for loom operation is monitored, and the compressor pressure is automatically adjusted, achieving energy savings in compressor power consumption.

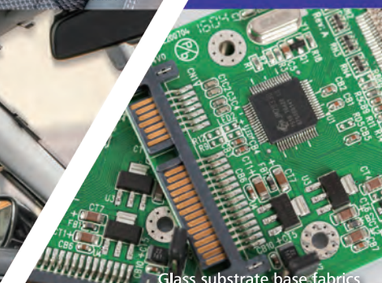


Technical Fabrics

Suitable for a wide range of technical fabric applications







A dedicated page for technical fabrics is available.
www.tsudakoma.co.jp/english/business/textile/technical/index.html

Preparatory machines for technical fabrics

Supports technical fabric weaving throughout the entire process, from warp preparation to weaving.

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

Specifications

ZAXneo001Plus

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, 250 cm) - Up to 80 cm (280, 340, 360 390 cm)	Maximum width reduction: - Up to 80 cm (190, 210, 230, 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 and 6 colors	8 colors
Machine power	Drive	Direct gear drive: 3.7 kw, 5.5 kw	SYSTEM EOS (High-efficiency 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-A IV 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
	Cloth roll	Bushing support type, Bearing support type	
	Pick density	5.9~118.1 picks/cm (15~300 picks/inch)	
	Temple	Top-mounted type 14 mm guide bar	AGB Adjustable Guide Bar Guide bar for filament
Beating		4-link (Reed space: 150, 170, 190, 210, 230 cm) Cam (Reed space: 250, 280, 340, 360, 390 cm)	Cam (Reed space: 150, 170, 190, 210, 230 cm)
		Lightweight and well-balanced rocking shaft, Lightweight 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) ZTN Needle-less Tuck-in device (Left & right) 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

ZAXneo001Terry

Item		Specification	Option
Reed space	Nominal (cm)	190, 210, 230, 260, 280, 340, 360	300
	Useful reeding widths	Maximum width reduction: - Up to 60 cm (190, 210, 230 cm) - Up to 80 cm (260, 280, 340, 360 cm)	Maximum width reduction: - Up to 80 cm (190, 210, 230 cm)
Frame		TAP Tsudakoma Advanced Platform	
Weft selection		4 colors, 6 colors	8 colors
Machine power	Drive	Direct gear drive: 5.5 kw (Electronic dobby), 7.5 kw (Electronic jacquard)	SYSTEM EOS (High-efficiency driving motor)
	Start	Rush-start motor drive Push-button operation with both hands Inverter slow inching operation (Forward and Reverse) PSC Programmable Speed Control	
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 WBS Weft Brake System	Dual weft insertion control by color *i*-WBS Weft Brake System FIC Fuzzy Insertion Control ACI-II Air Consumption Indicator
	Measuring and storage	FDP-A IV 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		Positive dobby (Electronic/Floor-mounted), Jacquard	
Let-off		Double beam With kickback function TMC Terry Motion Control MTC-G Multiple Tension Control-Ground warp MTC-P Multiple Tension Control-Pile warp EPR Electronic Pile Ratio Control PRM Pile Ratio Measuring One touch lift-up for ground guide roll	
	Flange diameter	Pile: 1,000 mm, 1,250 mm Ground: 800 mm, 1,000 mm	
Take-up		Provided with automatic density change function (32 densities) Take-up stop device With blank pick function	
	Woven length counter	Towel piece counter Doffing counter (Display on the Navi-board)	
	Maximum on-loom take-up diameter	600 mm	720 mm Off-loom take-up device
	Pick density	9.8~118.1 picks/cm (25~300 picks/inch)	
	Temple	Slide top-mounted type, 14 mm guide bar	AGB Adjustable Guide Bar
Terry motion		Terry motion with cloth fell shifting system New ETS Electronic Terry System Shifting amount: 3~24 mm	
Beating		Cam Lightweight and well-balanced rocking shaft Lightweight reed holder	
Selvage		Leno motion	ZTN Needle-less Tuck-in device (Left & right/Intermediate) Electric Yarn Catcher
Waste weft removal		Catch cord taken-up with two rolls Electric waste-selvage cutter	Fringe stretch nozzle
Cutter on the yarn supply side		Electric vertical type	
Lubrication		Oil bath system for main driving sections Centralized lubrication (manual grease supply)	Centralized lubrication (automatic grease supply)
Stop motion	Cloth route		Anti-miswinding function
	Weft	Reflective feeler, Two-head system	Package sensor, 3-eyed feeler
	Warp	Electric contact bar system, 2 rows each in 2 boxes	4-row dropper for ground warp (for gauze backing)
	Stop cause indication	Message indication on the Navi-board 5-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

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