

ZAX^{Professional} Terry 9100

AIR JET LOOM



TSUDA  KOMA

ZAX^{Professional}9100 Terry AIR JET LOOM

Opening the door to a new era of terry-weaving!

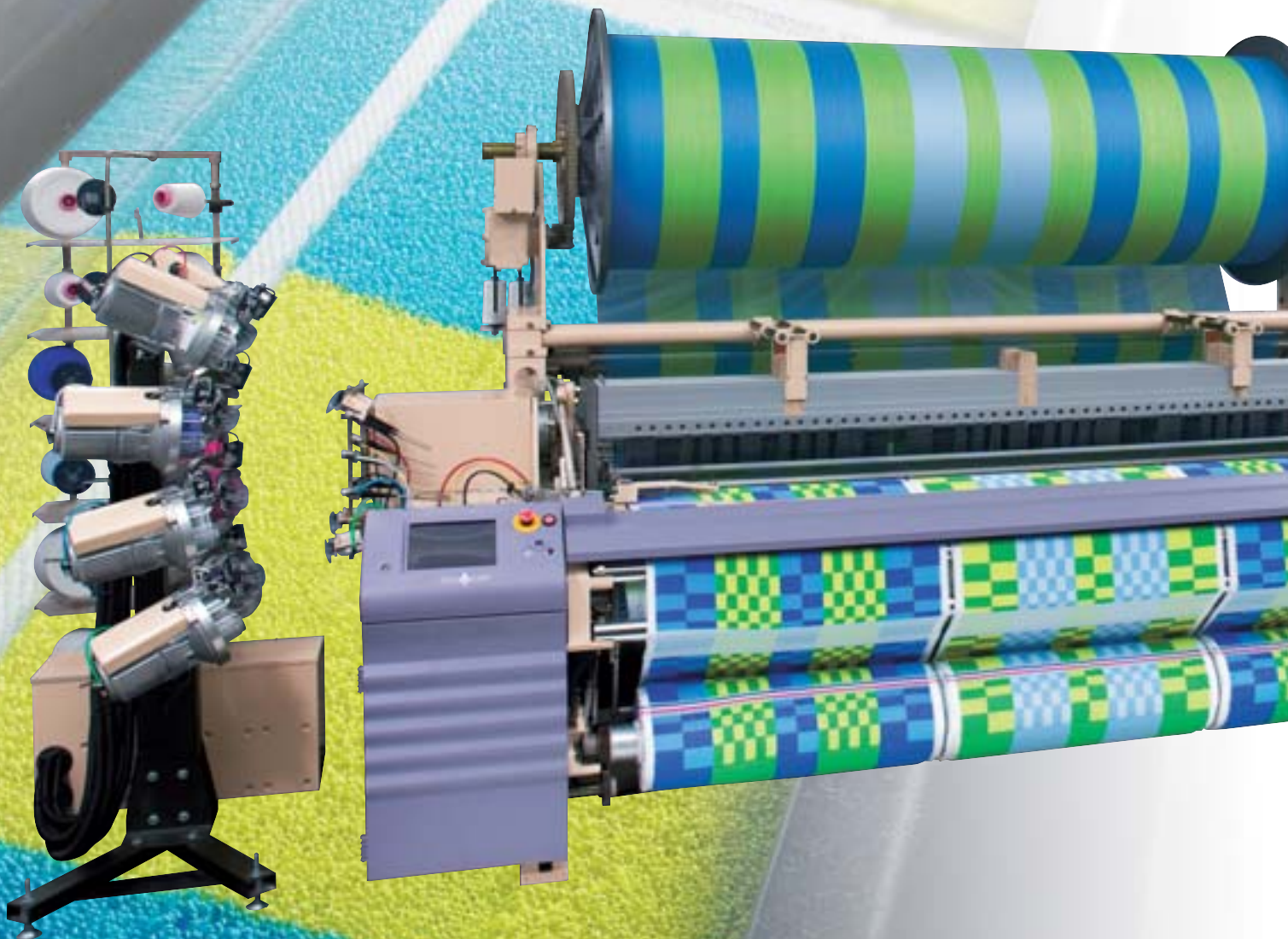
We provide the ZAX9100-Terry with the "Weave Navigation System" to support terry-weaving. The ZAX9100-Terry combines the ultra high-speed of the ZAX9100 with the largest accumulation of terry-weaving know-how in the world. The ZAX9100-Terry is the exclusive terry-weaving air jet loom for the next era. The "Versa-Terry System" which is state of the art technology of TSUDAKOMA's terry-weaving realizes the stable weaving of high quality towel.

With the newly designed air jet loom, anyone can easily weave high-quality fabric using the Weave Navigation System. In pursuit of the ultimate user-friendly loom, the ZAX9100 Air Jet Loom was developed.

TSUDAKOMA's terry-weaving know-how was integrated into the basic capacity of the ZAX9100, and the ZAX9100-Terry is the exclusive terry-weaving air jet loom. The ZAX9100-Terry opens the door to a new era of terry-weaving.

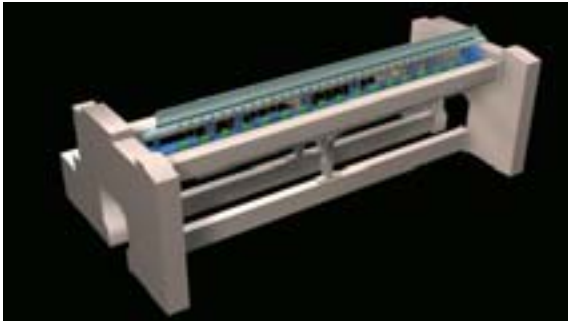
The ZAX9100-Terry is completely new. We re-thought all the basics. We redesigned each section of the loom from the ground up including the frame structure, the shedding, the beating, the filling insertion, the let-off and the take-up motion. Our accumulated experience has given form to the next generation air jet loom.

The ZAX9100-Terry aggressively handles tasks like productivity, versatility, and product development in a competitive weaving market.



■ Outstanding ultra high-speed and low vibration

High productivity is an essential factor of air jet looms. The ZAX9100-Terry enjoys a synergy of weaving geometry optimized for a smooth warp shed, the world's best filling insertion system, and a newly designed robust structure. Consequently, the ZAX9100-Terry is successful in three conflicting tasks: high speed (increase of 10% compared with our conventional model), low vibration, and energy savings.



■ Excellent versatility

The FDP-A III free drum pooling system is superior in responding to high-speed. As its advancing reel system separates fillings, the ZAX9100-Terry can weave a much wider range of fillings.

The number of pre-wind on the feeder is about 3 times that of our conventional measuring system.

Minimizing damage on fillings during pick-at-will filling insertion stabilizes operation.



■ Expanding the world of terry-weaving

The ETS Electronic Terry System (Optional) can widen the weavable range. Special designed towels with a nice touch and feel are covered by the ZAX9100-Terry.

Moreover, the pile height and the pile cycle can be changed with ease, and style change has become simpler.

■ Ultimate weaving support!

We incorporated the world's first "Weave Navigation System."

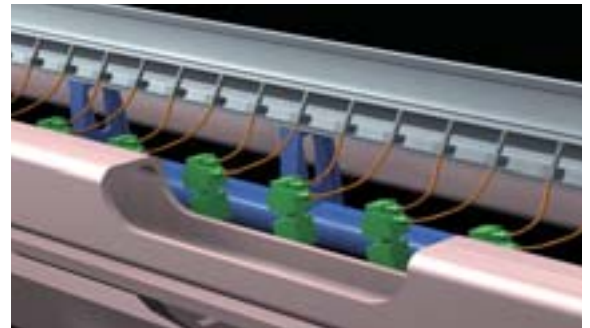
We provided the ZAX9100-Terry with the world's first "Weave Navigation System." TSUDAKOMA has embodied the accumulated wealth of terry-weaving expertise in this system.

Simple operation on the "Navi-Board" reproduces professional weaving technology with ease.

TSUDAKOMA's original systems guide the ZAX9100-Terry to the best weaving condition even during operation.

■ Energy savings

Careful attention has been paid to design the ZAX9100-Terry to save energy. Air consumption was also reduced 10% by adopting solenoid valves for every two sub-nozzles. (Compared with our convention model) The filling insertion at low air pressure is tender toward fillings.



■ Easy operation

Easy operation is an indispensable factor for high productivity. The ZAX9100-Terry design supports customers by simplifying weaving. Ease of operation was one goal in our development. Based on TSUDAKOMA's years of experience, we have created a user-friendly loom with both software and hardware.

■ Pursuit of quality fabric

We thoroughly pursue quality. Enhancement of the PSS Programmable Start and the Weave Navigation System works to adjust the settings to minimize stop marks.

■ Harmony with the environment

In addition to low vibration and energy savings TSUDAKOMA aims to harmonize with the environment. We continue investigating noise and vibration reduction, and promote practical applications.

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Responding to diversified terry-weaving

State of the art technology of TSUDAKOMA's terry-weaving, "Versa-Terry System"

Each system that was developed for terry-weaving by TSUDAKOMA has been improved and new techniques which can weave various complicated towel designs are included in the "Versa-Terry System". The "Versa-Terry System" inherited all of TSUDAKOMA's greatest achievements for air jet loom terry-weaving and improved on them. High speed operation, excellent versatility, high quality, energy savings, and easy operation are combined with true user-friendliness.

■ ETS Electronic Terry System (Optional)

• Wide weavable range

For the ZAX9100-Terry, 31 kinds of pile heights can be set, and special designed towel, such as 2-height pile and wave pile, can be easily woven.

In addition, multi-pile cycles can be set, so even multi-pile cycle towel including 3, 4, 5, and 7-pick cycles can be woven. The range of design of towel is incredibly widened.

• Improvement of quality, touch and feel

Each operation of the loose pick and the fast pick can be set to easily improve the quality, touch and feel of the towels.

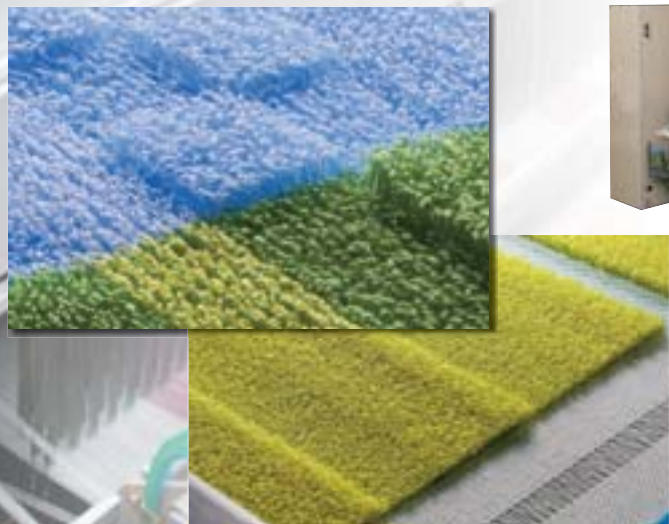
• Easy style change

The pile height and pile cycle can be changed easily on the Navi-board, and style changes become simpler.

• Easy weight control of towel

The change of the pile height can be carried out easily. It simplifies the weight control of towel.

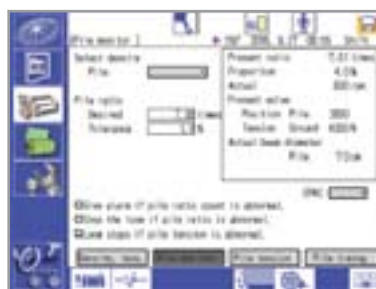
Multi pile cycle towel



Multi pile height towel

■ EPRC Electronic Pile Ratio Control (Optional)

Controlling the present value calculated by the automatic pile ratio indicator makes it possible to weave even-weight towel. This automates weight control of the towel.



■ MTC-G Multiple Tension Control - Ground warp

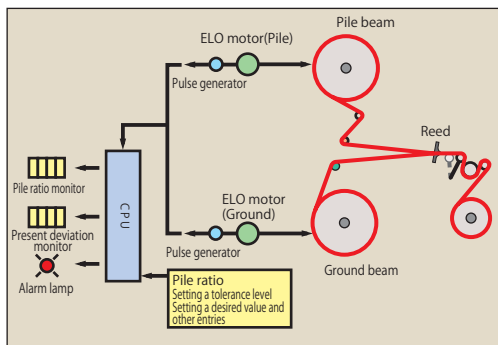
Multiple ground warp tensions can be set on the Navi-board. Thus, the pick density at the border is well controlled.



Technology for better pile quality

■ Pile ratio monitor

A computer calculates and indicates the pile ratio, contributing to consistently high quality and labor conservation.



■ TMC Terry Motion Control

The TMC Terry Motion Control that received favorable reviews has been improved.

• Ideal tension control

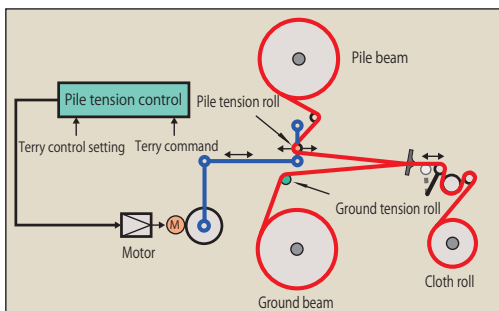
The new control system keeps the pile warp in the ideal tension to form high quality pile, a nice touch and feel. Stable operation results from preventing defective shedding of pile warp.

• Stop mark prevention

When the loom is stopped due to warp, the pile tension is lowered to prevent middle blow-off.

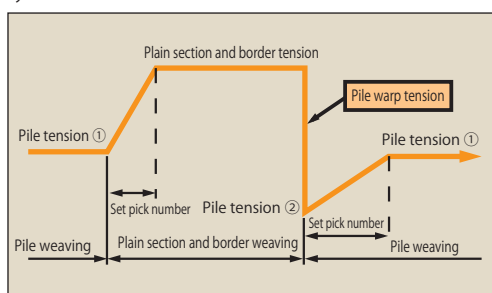
• Simple maintenance

Gear driving does not require belt changes.



■ MTC-P Multiple Tension Control-Pile Warp

In addition to tension control during plain section and border weaving and at loom stoppage, two kinds of pile tension can be set while the pile is being woven. The pile just before and after a border is precisely made.



■ Slide top-mounted temple

The top-mounted temple makes tension adjustment of the temple easier and the depth adjustment of temple possible.

• Slide guide bar

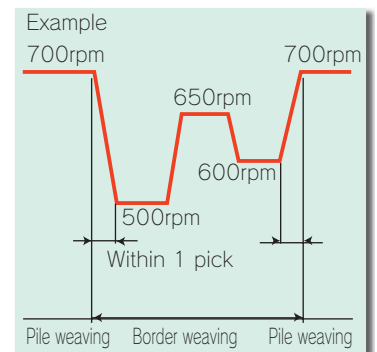
Because the guide bar supporting the cloth fell can move back and forward according to the terry motion, the woven cloth is not rubbed hard and the quality of pile rises.

The guide bar close to the cloth fell easily weaves the towel with a special border and long pile.



■ PSC Programmable Speed Control (Patented)

Up to eight loom rpms can be independently set for a border and a pile weaving section respectively. Formerly, the loom rpm was restricted by the border weaving section. The PSC automatically increases the loom rpm for other than the border weaving section in order to improve productivity. It changes the rpm within 1 pick. Moreover, versatility is also widened by weaving special borders.



■ ZTN needle-less tuck-in device (Optional)

For tuck selvage formation, fillings are tucked in the edge by air, instead of conventional tuck-in needles. No mechanical parts are consumed. Maintenance and adjustments become easier.



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Weave Navigation System

The ZAX9100-Terry expands and enhances automatic setting functions for more detailed and easier operation. Enter a minimum number of items.

Conditions to control weaving are set automatically, and our recommended mechanical values are shown.

This new system navigates up through real time weaving for optimum operation.

As a first step toward a loom free from measuring equipment, various loom data are indicated.

Network application

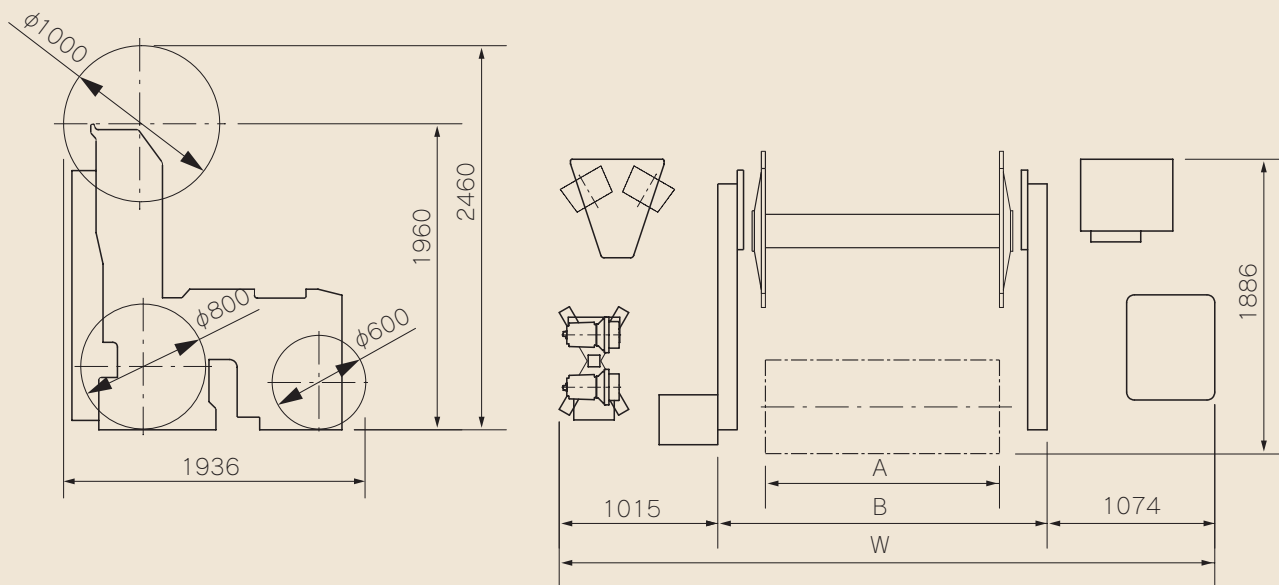
The TLM TSUDAKOMA Loom Monitoring system can be installed without difficulty based on the Ethernet through a LAN port, standard on the ZAX9100-Terry. A special computer is not necessary for the installation.



Navi-Board

■ Dimensions

Unit: mm



Reed space cm (inch)		190 (75)	210 (83)	230 (91)	260 (102)	280 (110)	340 (134)
W	Dobby shedding (2861)	4599	4799	4999	5299	5499	6099
A		1900	2100	2300	2600	2800	3400
B		2510	2710	2910	3210	3410	4010

*The diagram above is applicable for a ZAX9100-Terry air jet loom of 4-color at-will motion, with the diameter of the warp beams provided being 800mm for ground and 1,000mm for pile, and with Staubli 2861 Dobby.

■ Specifications

Item		Specifications	Option	
Reed space	Nominal width (cm)	190, 210, 230, 260, 280, 340		
	Useful reeding width	Nominal width: 0-60cm (for 190-230cm loom) Nominal width: 0-80cm (for 260cm or wider loom)	Nominal width: 0-80cm (190-230cm)	
Filling Selection		4 colors, 6 colors		
Driving		Direct start and stop by rush-start motor Push-button operation with both hands, Slow inching with an inverter (Forward, reverse) PSC Programmable Speed Control		
	Motor capacity	Rush-start motor: 5.5kW (For a loom provided with mechanical terry motion)	Rush-start motor: 3.7kW (for a loom provided with both Electronic Terry System and electronic dobby), Rush-start motor: 5.5kw (for a loom provided with both Electronic Terry System and electronic jacquard)	
Filling insertion		Main and sub-nozzle combined system Stretch nozzle, Auxiliary main nozzle	WBS weft brake system (2C)	
	Filling insertion control	New solenoid valve with built-in manifolds (Two sub-nozzles/valve) Independent sub-nozzle timing control by color, Sub-nozzle boosting system AJC Auto Jet Controller, First Pick Controller		
		Measuring & Storing	FDP-All Free Drum Pooling (with advancing reel system)	Balloon breaker
	Shedding	Electronic dobby shedding (Positive/Floor-mounted): Up to 20 heald frames, Electronic Jacquard shedding		
Let-off		ELO Electronic 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, Pile ratio monitor	EPRC Electronic Pile Ratio Control	
	Flange diameter	Pile: 1000mm, 1250mm Ground: 800mm, 914mm, 1000mm		
			One touch lift-up for ground guide roll	
Take-up		Electronic take-up (ETU)		
	Pick density	9.8-118.1 picks/cm (25-300 picks/inch) 8 different density settings		
			Take-up stop device, blank pick function	
	Counter	Towel piece counter, Doffing counter (displayed on Navi-Board)		
	Maximum on-loom take-up diameter	600mm	Off-loom take-up device (Maximum diameter 1500mm)	
Temple	Slide top-mounted type			
Terry motion		Terry motion with cloth fell shifting system, Slide top-mounted temple, Slide guide bar Shifting amount: 6-28mm	ETS Electronic Terry System Shifting amount: 3-28mm (when equipped with ETS Electronic Terry System)	
	Beating	Crank type beating, multi-sley sword system Rocking shaft with intermediate supporter		
Selvage Formation		Leno	ZTN needle-less tuck-in device	
Cutter		Electrical waste-selvage cutter		
Lubrication		Oil bath system for main driving parts, Centralized lubrication (Manual grease)	Centralized lubrication (Automatic grease)	
Stop motion	Filling breakage	Reflective weft feeler Two-head system	Package sensor 3-eyed feeler	
		Warp breakage	Electric contact bar system, 2 rows each in 2 boxes	
	Others	Electric stop motion for selvage yarn and catch cord yarn	SGS safety guard sensor	
	Stop cause indication	Indication by message on Navi-Board 5-color multi-function indication lamp		
Weave Navigation System	Navi-Board	Automatic data setting, recommended setting indication, optimum weaving condition information Automatic control, troubleshooting, self-diagnosis function Operating data indication, maintenance data indication		
		Network application	Weaving advice, operation manual & parts catalog browse TLM TSUDAKOMA Loom Monitoring system	TCCS TSUDAKOMA Computer Control System

*For special design, please contact our sales staff or your nearest TSUDAKOMA dealer.

*Photographs, drawings, and data in this brochure are subject to change for improvement without notice.



The Weave Navigator

TSUDAKOMA

Since its founding in 1909, Tsudakoma has been a vigorous pioneer in weaving technology.

While achieving higher productivity, improving fabric quality, and saving energy, Tsudakoma has poured its energy into satisfying the demands of multi-colored, wide, and value-added fabrics. As a result, Tsudakoma is the leader in cutting-edge weaving technology.

Tsudakoma, as the Weave Navigator, continues creating excellent textile machinery, opening the door to a new era of weaving.



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