

# TongDa Machinery

## TDGA558 型分条整经机

### TDGA558 Sectional Warping and Beaming Machine

#### 适用范围

精毛纺织物、强捻化纤长丝织物、色织物、丝织物、毛巾织物及特种产业用布等品种的分条整经。可作为喷水、喷气、剑杆、片梭等无梭织机的织前准备设备。能替代进口分条整经机。

#### Scope of Application

This machine is suitable for sectional warping various kinds of yarns, including worsted yarn, high twisted filaments, yarn for color-woven fabric, for silk fabric, for towelling fabric and fabric in special industry. This machine, which can match water-jet, air-jet, rapier and projectile looms, is the equipment for preparation before weaving.

#### 主要技术特征

◎整经操作台的轴向位移由高精度伺服电机控制，起点定位、条定位一次按键自动完成。◎整经操作台可自动径向位移。它由独立的步进电机控制，使定幅箱与成型纱面保持等距离，其距离可任意设定。

◎应用交流变频调速新技术，由计算机控制达到无级调整，保持大滚筒上纱线恒线速卷绕和退绕。

◎专用机、电、液、气一体化的油压装置产生油压，推动钳式制动器，完成整经刹车。

倒轴张力控制采用外钢带阻尼方式，消除了传统的钳式阻尼带来的噪声和张力不匀问题，(可按要求选配倒轴张力自动控制系统)

◎采用计算机及 PLC 等先进技术，并具有计总长、计匹长、计条及断头记忆等功能和满总长自停、满匹长自停、断头自停等功能。

◎大屏幕触摸屏的人机界面，显示清晰、信息量大、操作方便。

◎主机大滚筒整体在地轨上由伺服电机控制移动，分绞箱架及筒子架等固定。经纱条带在整经过程中始终呈直线状态，片纱张力保持恒定。

#### ◎ 1:6.3

固定锥体钢质高强度大滚筒与高精度伺服电机的整经操作台配合可满足几乎所有品种的整经工艺。

◎可选配两种型式的倒轴机：

整体可移动式倒轴机，一台倒轴机可与多台整经机头配套，可选配上蜡(油)和织轴加压装置。

固定式倒轴机，结构简单，操作方便。

配有多种型式的筒子架能满足不同品种的工艺要求。锭距、锭数可根据用户需要特殊配置。

◎本机选配的张力器有三柱式可调张力器、二柱式微调张力器和单柱式张力器等多种形式。

◎本机还配有断经自停装置和静电消除器。



#### Technical Features

◎ The traverse of warping operation panel is accurately controlled by servo motor. The starting point setting and stripe setting can be achieved automatically once by pressing the button.

◎ The forward and back movement of warping operation panel is accurately controlled by a step motor, so that the distance between space reed and yarn on drum is constant and the distance is optional.

◎ To keep the yarn on the drum can gain constant speed when winding and unreeling, the new technology, AC frequency converter speed adjustment device, which controlled by computer to realize the stepless monitor, is put into practice.

◎ The machine is braked by an electro-mechanical-hydropneumatic device during warping. The beaming tension control adopted external steel strip damping, which eliminates the noise and uneven tension problems occurred in the traditional clamping type damping. The optional automatic power control system can be equipped according to the requirements.

◎ By means of microcomputer and PLC, the count of total length, cut length, strip and broken and memory, stop motion, warp stop motion and broken-end memory function operate reliably.

◎ The man-machine interface is a large screen TSS(touching sensor screen), which offers a clear picture, stores much information and operates easily.

◎ The movement of the frame on the rail is controlled by servo motor, with the cross reed and bobbin creel fixed. So the stripes keep in linear shape and yarn tension is constant during the process.

◎ The joint of the steel drum (cone angle 1:6.3) and the high precision servo motor is almost perfect enough to suit any type of warping.

◎ Two types of beaming part are available.

The first one, with the whole part movable, can match different types of warping part, waxing oiling device or press roller can be added.

The second one, fixed type, is simple structure and easy operation. According to the customer's request, different bobbin creel, spindle number and spindle spales can be made.

◎ Single-post type tension device, two-post type tension device and three-post type tension device are available.

◎ Warp stop motion and static eliminator is optional.

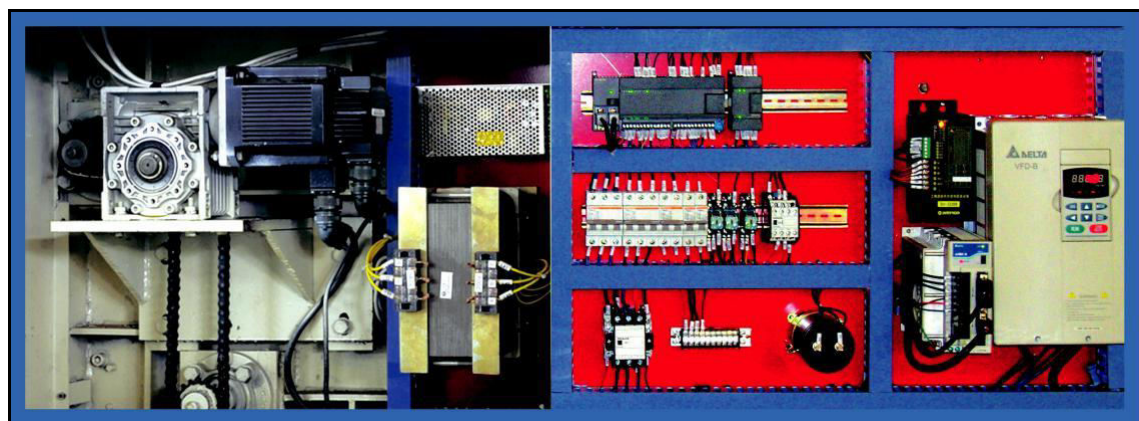


整经操作显示屏  
Operation display screen for warping

# TongDa Machinery

## 主要技术参数

1、有效幅宽	2300(mm)(基本型)(特殊规格按用户可定制)	14、锥起点定位	自动
2、织轴盘片直径	≤ 800(mm)(基本型)	15、条定位	自动
3、整经速度	0 ~ 600(m/min)	16、条宽设定范围	0.1 ~ 999.9(mm)(应不大于导纱辊长度)
4、倒轴速度	0 ~ 100(m/min)	17、筒子架锭距	300x250(mm)(毛、棉纱)
5、整经、倒轴恒线速精度	±2%		290x290, 220x220(化纤长丝)
6、制动距离	≤ 2(m)(速度 300m/min 时)	18、筒子架锭数	392(毛、棉纱) 480(化纤长丝)
7、倒轴张力	≤ 6000(N)(倒轴速度 ≤ 50m/min 时)	19、输入电压	3x380V(±10%)
8、大滚筒直径	1026(mm)	20、装机容量	30(KVA)
9、锥体长度	1010(mm)	21、整经电机功率	7.5(KW)
10、锥角角度	9°	22、倒轴电机功率	15(KW)
11、导条走丝速度	0.001 ~ 9.999(mm/r)(无级)	23、导条移动伺服电机	1.5(KW)
12、导条随动精度	0.02%	24、主机重量	4500(kg)
13、定幅箱与滚筒距离	可调	25、筒子架重量	2500(kg)



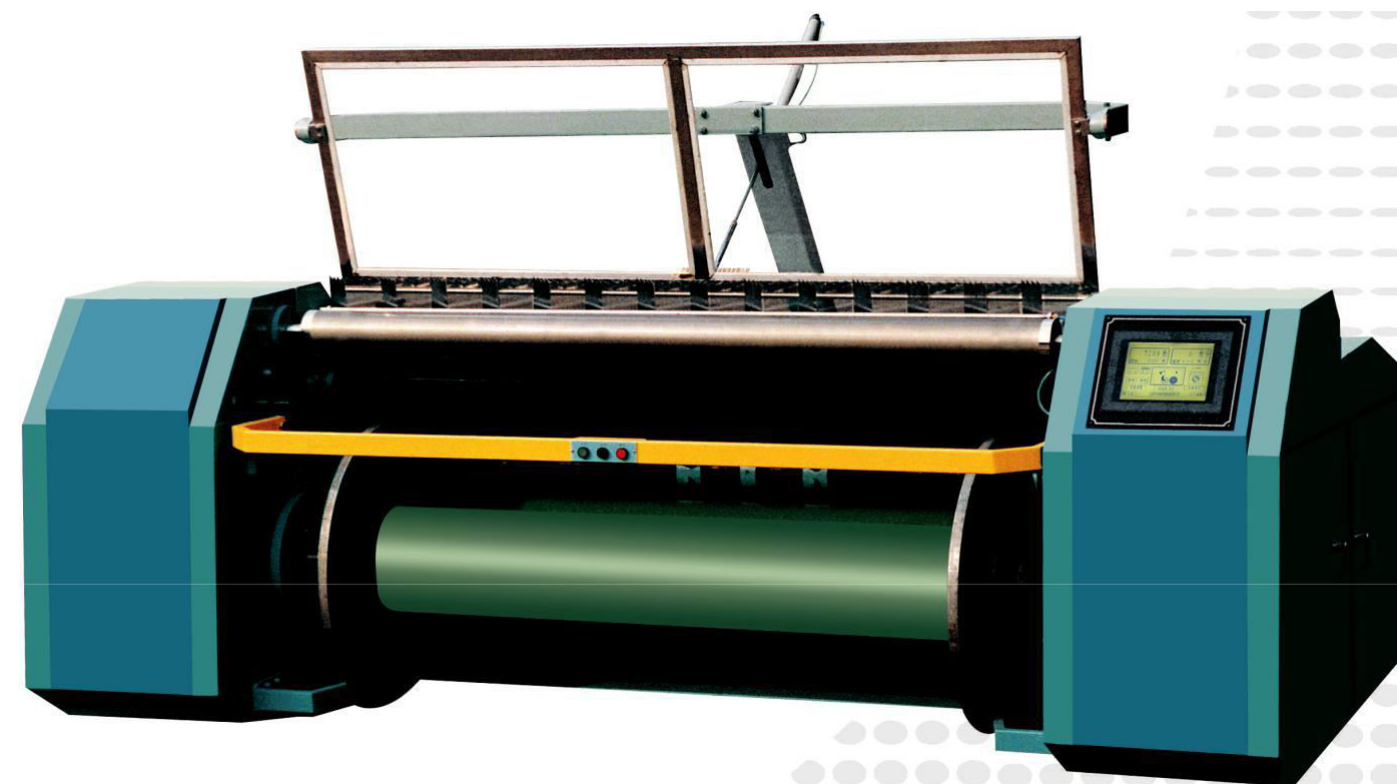
机头控制箱，伺服传动  
Head control box, servo driving

## Main Technical Data

1、Work width	2300(mm)(Basic form) (Particular specification can be customized according)	14、Positioning of cone starting point	Automatic
2、Beam flange diameter	≤ 800(mm)(Basic form)	15、Stripe location	Automatic
3、Warping speed	0 ~ 600(m/min)	16、Stripe width	0.1 ~ 999.9(mm)The length should not be longer than the guide roller
4、Beaming speed	0 ~ 100(m/min)	17、Spindle space	300x250(mm)(Wool yarn/cotton yarn)
5、Deviation of linear speed	±2%		290x290, 220x220(Chemical fiber)
6、Braking distance	≤ 2(m)(With a speed of 300m/min)	18、Spindle number	392(Wool yarn/cotton yarn)
7、Beaming tension	≤ 6000(N)(Beaming speed ≤ 50m/min)		480(Chemical fiber)
8、Drum diameter	1026(mm)	19、Input voltage	3x380V(±10%)
9、Cone Lenth	1010(mm)	20、capacity	30(KVA)
10、Cone angle	9°	21、Warping motor power	7.5(KW)
11、Stripe traverse speed	0.001 ~ 9.999(mm/r)(No grade)	22、Beaming motor power	15(KW)
12、deviation of stripe traverse	0.02%	23、Strip traverse motor	1.5(KW)
13、distance between space reed and yarn on the drum	Adjustable	24、Warping and beaming frame weight	4500(kg)
		25、Creel weight	2500(kg)

## TDGA528 型高速分批整经机

### TDGA528 High Speed Direct Warping Machine

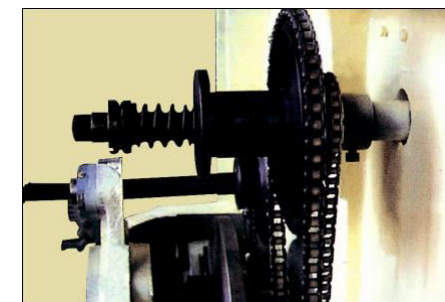


## 适用范围

本机适用于各种短纤维的分批整经，具有整经效率高、经轴密度均匀，平整的特点，是各类浆染设备的理想准备设备。

## Scope of Application

The machine can be applied to directly warping various chopped yarns. It has the characteristics of high efficiency, uniformity density and flatness thread. So this kind of machine is the ideal equipment for preparation before sizing and dyeing.



主传动及拍开、拍合装置  
No driving and open-tapping, close-tapping device

# TongDa Machinery

## 主要技术特征

### 1、电气控制系统

采用德国西门子的工控系统，瑞士 ABB 的拖动系统，德国和日本的传感器，气动元件和触摸式人机界面，技术先进，性能稳定可靠。

应用多路传感器线测技术、自动误差纠偏技术，应用先进的软件算法，计长误差控制在 0.25% 之内，提高产量，降低整经消耗和成本。

### 3、传动方案

采用交流变频技术，对经轴进行直接拖动。全数字控制、恒线速卷绕（速度控制、测量、设定完全数字化）整经效率高，能耗低。

4、经轴调整 机械、自动两种形式调节经轴盘片与压辊的相对位置，解决了由于经轴问题而造成的整经加压偏离经轴中心的问题。

### 5、经轴制动

采用高效的钳制式制动器，应用空气动力和气压增压技术，制动灵敏，迅速，制动力矩大，制动距离小。

### 6、经轴加压

采用间接加压技术，消除了加压跳动的问题，经轴成形圆整度高，卷绕密度均匀，压辊压力 150N-6000N 可调，压辊由独立的气动机构控制，停车制动时自动回退，消除了压辊与经轴纱线的摩擦，保证了整经的质量。

### 7、上轴机构

应用机械式传动机构，采用锥齿式经轴接头，夹紧和脱开运作稳定可靠，另外还有气动传动的经轴上落轴机构、不同规格的经轴可一机多用，方便实用。

### 8、梳箱机构

精密的伸缩箱具有横向的对准、经密调节功能，另有一套间隙吹风机构，保证箱齿的清洁，完全密封的伸缩箱装置也解决了粉尘和飞花的干扰，降低断头率。

### 9、挡风板

挡风板能根据设备运行状态自动调整位置，隔开运行的气流和大部分的飞花对机器的影响，进一步降低断头率和提高整经效率。

### 10、人机对话

进口的大屏幕中文触摸屏，直观显示各种整经数据，也能方便地输入工艺参数。同时能提供中文的故障诊断结果，方便用户对设备进行维护保养。

### 11、安全

设有安全保护机构，黄色安全杆同时具有停车功能。

### 12、筒子架

多种规格的筒子架、张力器可由用户选配。

## Technical Features

### 1.Electricity control system

Advanced technology such as Germany Siemens engineering control system, Swiss ABB driving system, Sensors made in Germany and Japan and pneumatic components as well as touching man-machine interface etc. ensures the machine is stable and reliable.

### 2.Yarn length count system

The application of the technology of multiplex sensors, automatic correction deviation and advanced software calculation makes deviation of length under 0.0025%, while there is high production and low waste during the warping.

### 3.Driving system

Warping beam is directly driven by frequency conversion motor(new technology). Full digital control and constant linear speed winding (digital in speed control, measure as well as initialization) result in high warping efficiency and low power consumption.

### 4.Warping beam adjustment

Mechanical and auto modes to adjust relative position of warping beam flange and pressure roller to settle warping and pressurizing adviated from warping beam which caused by warping beam problem.

### 5.Warping beam brake

High effective clamping brake and air power as well as advanced air-oil pressure augment technology make brake sensitive and quick, moreover, brake force moment is big and brake distance is short.

### 6.Warping pressure augment

Indirect augment technology eliminates the jump caused by pressure. Perfect shaping, uniform winding density of beam and adjustable pressure(150N-6000N) of pressure roller controlled by independent pneumatic mechanism as well as automatic return during the brake, all of this eliminates friction between pressure roller and yarn on the beam to improve the quality of warping.

### 7.Mechanism of mounting of beam

Mechanical driving mechanism and bevel gear beam connector make it stable to clamp and relieve. Besides, the lifting and dropping mechanism of pneumatic transmission's beam makes users use defferent beams to show the feature of convenience and practical.

### 8.Comb reel mechanism

Precision flexible reel has the function of cross alignment and accurate regulation automatically carried out. One set of intermittent blow mechanism makes reel tooth clean. Accurate process and full-closed reel device resolve the disturbance of dust and flying foreign material, so that brake ratio is lowed.

### 9.Windscreen

Windscreen separating moving air flow and most flyings from machine can automatically adjust position according the running state of the machine. Breakage ratio is decreased further, and warping efficient is improved.

### 10.Man-machine interface.

Imported big touching screen apparently displays various data of warping. It is also convenient to set technical parameter. Fault report shown on the screen, is convenient for user to repair and maintain.

### 11.Safety

Safety device protects operators and the equipment, and the yellow one has the function of stop the machine.

### 12.Creel

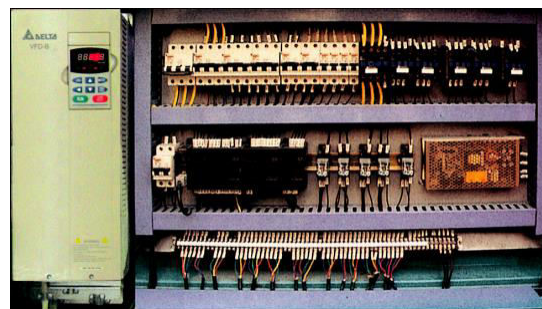
Various creels and tension are optional according to requirement.

## 主要技术参数

- 1、幅 宽： 1600-1800mm( 可根据需要定制各种规格 )
- 2、经轴直径： 800; 1000mm( 可根据用户需要定制 )
- 3、整经速度： 100-800m/min 无级可调
- 4、制动距离： ≤ 3m(500m/min)
- 5、长度误差： ≤ 0.25%
- 6、电机功率： 11KW
- 7、筒子架： 640 头份, 240x240mm( 标准型 )( 可定制 )
- 8、主机重量： 3000kg
- 9、筒子架重： 2800kg

## Main Technical Data

- 1.Breadth: 1600-1800mm (Other breadth can be customized according to customers requirements)
- 2.Diameter of warp beam: 800-1000mm (can be customized according to requirements)
- 3.Beaming speed: 100-800m/min stepless adjustable
- 4.Braking length: ≤ 3m (500m/min)
- 5.Error of winding density: ≤ 0.25%
- 6.Motor power : 11KW
- 7.Bobbin cradle: Heading 640, 240x240(mm)(Standard model)
- 8.Weight of main unit: 3000kg
- 9.Weight of bobbin: 2800kg



西门子 PLC 工控系统  
Siemens PLL2 control system

# TongDa Machinery

## TDGA538 分条整经机

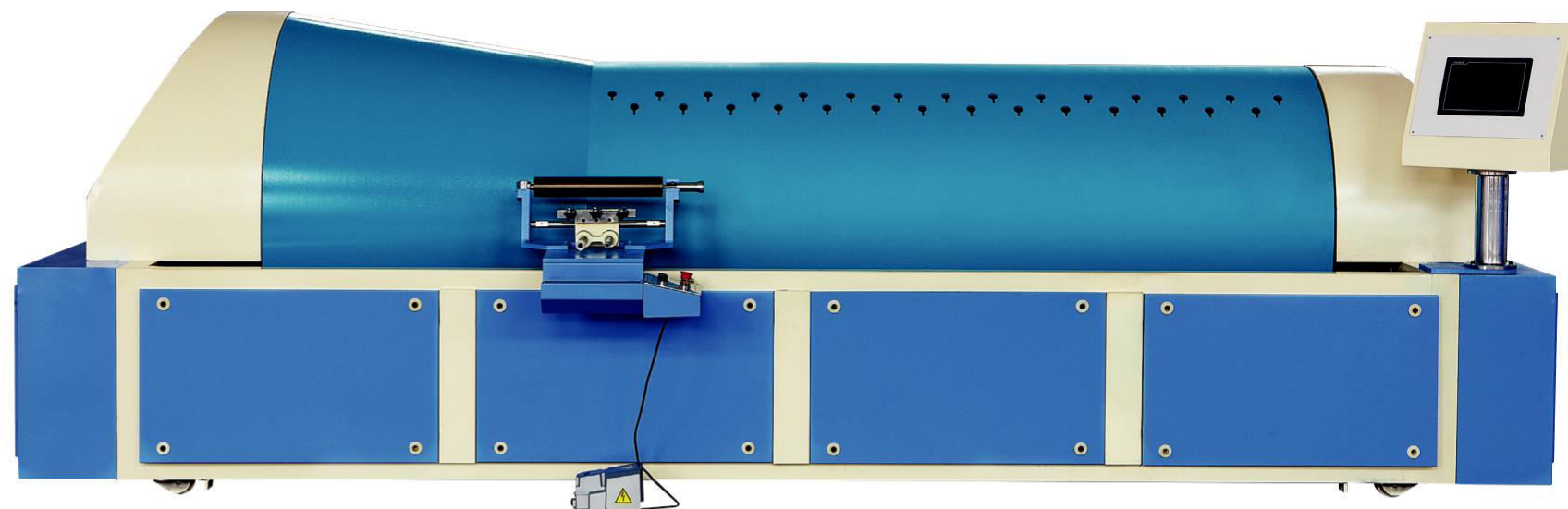
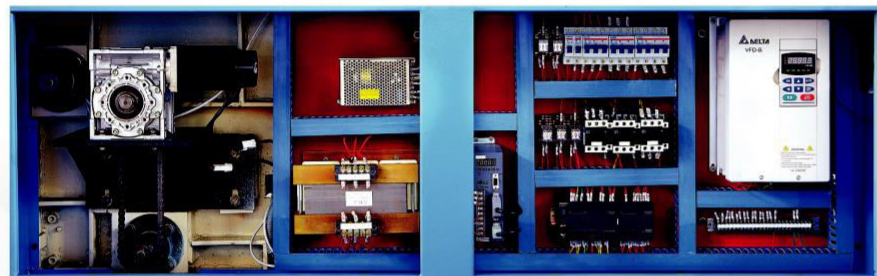
### TDGA538 Sectional Warping and Beaming Machine

#### 适用范围

丝织化纤强捻长丝织造、色织及毛巾织造等行业的品种开发。可与进口的喷水、剑杆、片梭等无梭织机的织前准备配套。在工业用布产业中广泛使用。

#### Scope of Application

Develop new products in the silk/chemical twisted filament weaving, yarn dyeing, towel weaving and other industries. This machine can work with imported water-spraying, rapier, rib and other shuttleless looms for pre-weaving process. It is widely used in the industrial fabrics industry.



#### DKGA538 主要技术参数 Main Technical Data

1、有效幅宽 Work width	2300 ~ 4200(mm)( 特殊规格按用户可定制) Particular specification can be customized according	13、定幅箱与滚筒距离 distance between space reed and yarn on the drum Stripe location	自动 Automatic
2、织轴盘片直径 Beam flange diameter	≤ 800(mm)	14、条定位 Stripe location	自动 Automatic
3、整经速度 Warping speed	0 ~ 400(m/min)	15、条宽设定范围 Stripe width	0.1 ~ 999.9(mm)( 应不大于导纱棍长度) (The length should not be longer than the guide roller)
4、倒轴速度 Beaming speed	0 ~ 80(m/min)	16、筒子架锭距 Spindle space	300x250(mm)( 毛、棉纱 ) (Wool yarn/ cotton yarn)
5、整经、倒轴恒线速精度 Deviation of linear speed	≤ ±2%( 速度 300m/min 时 ) (With a speed of 300m/min)	17、筒子架锭数 Spindle number	290x290,220x220(mm)( 化纤长丝 )(Chemical fiber) 392( 毛、棉纱 ) 480( 化纤长丝 )(Chemical fiber)
6、制动距离 Braking distance	≤ 3(m)(500m/min)	18、输入电压 Input voltage	3x380V±10%
7、大滚筒柱体直径 Drum diameter	1026	19、装机容量 capacity	20KVA
8、锥体长度 Cone Lenth	1010	20、整经电机功率 Warping motor power	7.5KW
9、锥角角度 Cone angle	9°	21、倒轴电机功率 Beaming motor power	11KW
10、导条走丝速度 Stripe traverse speed	0.001 ~ 9.999(mm/r)( 无级 ) (No grade)	22、导条移动伺服电机 Strip traverse motor	0.75KW
11、导条随动精度 Deviation of stripe traverse	0.2%	23、主机重量 Warping and beaming frame weight	5000(kg) / (YBGA528B:5500kg)
12、条定位精度 Deviation of stripe positioning	可调 Adjustable	24、筒子架重量 Creel weight	2500(kg)

# TongDa Machinery

## TDGA598 型系列整浆联合机

TDGA598 type warping-sizing combination machine

### 适用范围

#### TDGA598

型系列整浆联合机是纺织行业中织前准备设备，能满足毛、棉、麻、混纺等的色织及白胚织物的复杂的上浆工艺要求，结合了分条整经机和浆纱机的优点，将整经和浆纱工序合二为一，直接完成织轴的生产，该机器适宜小批量、多品种的生产，以及码样生产和新产品试制开发的浆纱、整经过程。具有纱线覆盖率底，浆膜完整性好，更换品种快、效率高、品质好，节约原辅材料，减少生产环节，降低生产成本。

本机对色织、毛麻、丝绸等行业各种原料的纱线从高支高密至低支低密甚至高支低密的特殊要求产品的工艺适应力强，通用性好。该机全电脑控制，设计合理，结构紧凑。技术先进，性能稳定、可靠，是各种剑杆、片梭、喷气织机的良好配套设备，是替代进口的良好选择。

### Scope of Application

In textile industry, TDGA598 type warping-sizing combination machine is the facility for preparation before spinning. It can meet the craftwork standard in sizing wool, cotton, hemp, mixed fabric and grey fabric. It has both advantages of sectional warping machine and sizing machine, which makes warping and sizing completed once, and directly accomplish the production of beam. TDGA598 is suitable for small quality production, multiplicity production and sample production. It is also suitable for the sizing and warping process in new products research. It has advantages of low percentage of yarn coverage, good integrity of chorion, quick replacement of the older generation products by new ones, high efficiency, good quality, saving raw materials as well as supplemental materials, reducing production cost.

TDGA598 is suitable to size and warp yarns used in color-woven fabric, wool fabric, silk fabric or special industry fabric, despite of the count and density. Controlled by computer, and structured reasonably, the new technology machine is stable and reliable, and can match with rapier, projectile, air-jet looms, etc.

1、微型计算机控制，触摸式人机界面，技术先进，操作方便，界面友好；

2、机、电、气、液一体化，技术先进、性能稳定、运行可靠；

3、先进的 AC 伺服随动系统，精度高，响应快，偏差小；

4、功能强大的微型计算机系统及先进的控制算法，使整个系统运行平稳、可靠，智能化程度高；

5、先进的 AC 矢量同步控制系统，同步精度高，响应快，超调小；

6、整经过程中不间断对各数据进行采样、分析、运算，使整个系统始终运行在最佳状态，使经纱成形平整，密度均匀，质量好倒轴张力稳定均匀；

7、浆槽采用双浸双压，品种适应性强；

8、气动加压，第二压辊线性加压，上浆率均匀稳定；

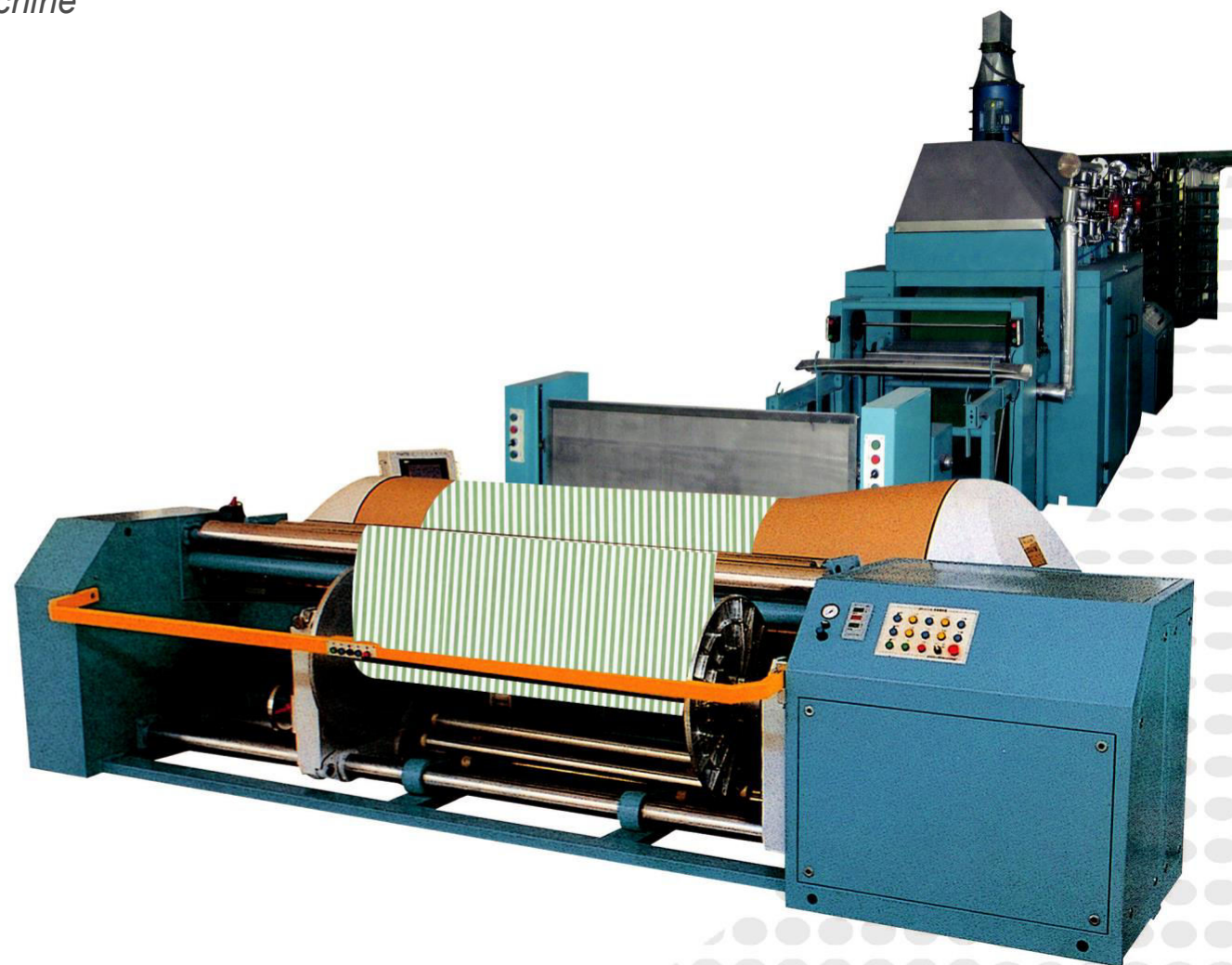
9、浆槽温度自控，槽体采用双夹层结构，保温性好；

10、主辅浆槽一体，逆流式循环，保持浆液粘度稳定；

11、采用全烘筒干燥方式，分两组温度自控，效率高，适应性强；

12、烘房泵用积极传动，方便控制湿区伸长；

13、应用气液增压钳式制动，制动效率高。



### Technical Features

1. Controlled by microcomputer, touch human-computer interface, advanced technology, convenient operation and friendly interface;
2. Mechanical, electronic, gaseous, liquid integration, advanced technology, stable property, reliable running;
3. Advanced AC servo, high precision, quick response, little deviation
4. Powerful function microcomputer system and advanced control method enables the system running steadily, reliably and having high degree of intelligence;
5. Advanced AC vector synchronous controlling system, with high precision, quick response and low overshoot;
6. During warping course, constantly data sampling, analysis, calculation to keep the system in best condition, make neat yarn figuration, well-distributed density, good quality, stable and well-distributed beaming tension;
7. Dual-dipping and dual-pressing mode is applied to slurry tank.
8. Pneumatic pressurizing and 2<sup>nd</sup> roller linear pressurizing ensures uniform starching.
9. Self-controllable tank temperature. Double interlayer of the tank ensures good insulation.
10. Integral main and assistant tank and countercurrent circulation ensures stable slurry viscosity.
11. Bake materials with full-enclosed drum. It features independent temperature control of two sections, high efficiency and good adaptability.
12. Active driving used on pump in drying cabinet makes wet area extension more easily.
13. Applies air-hydraulic supercharging nip brake with high efficiency of braking.

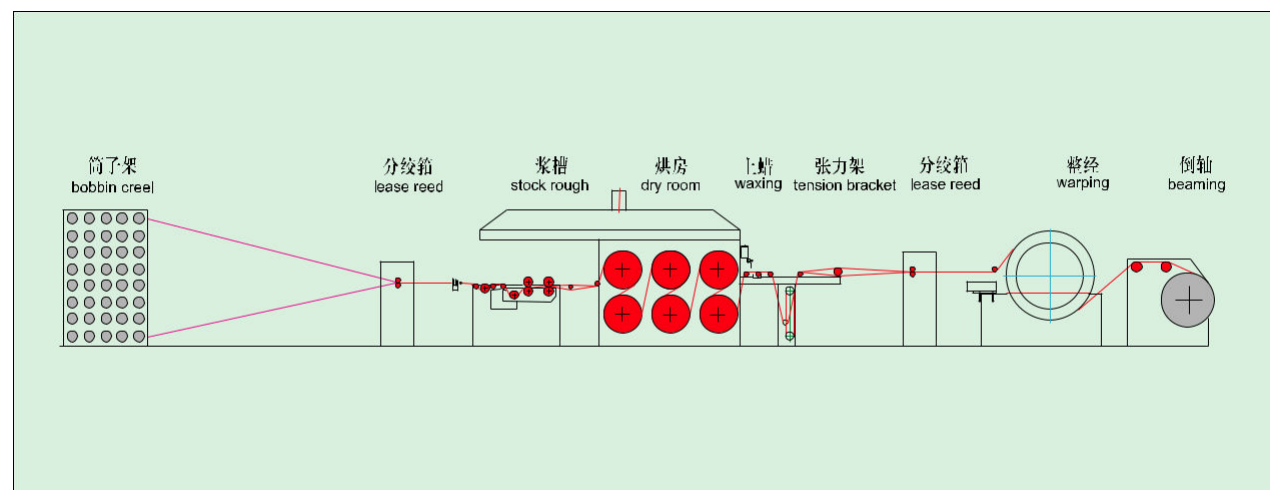
# TongDa Machinery

## 主要技术参数 Main Technical Data

- |   |   |
|---|---|
| 1. 适用范围: 6s-100s 纯棉纱、涤棉纱、亚麻                   | 1. Application scope: 6s - 100s pure cotton yarn, terylene cotton yarn, flax    |
| 2. 整经有效幅宽: 1800-3200( 根据客户要求)                 | 2. Work width: 1800-3200 (according to customer request)                        |
| 3. 滚筒锥比: 1:8                                  | 3. Cone angle: 1:8  |
| 4. 盘片直径: $\leq 1000$ (mm)                     | 4. Flange diameter: $<1000$ (mm)  |
| 5. 整经速度: 2 ~ 100( 米 / 分)                      | 5. Warping speed: 2-100 (meter/minute)  |
| 6. 倒轴速度: 0 ~ 100( 米 / 分)                      | 6. Beaming speed: 0-100 (meter/minute)  |
| 7. 倒轴张力: $\leq 6000$ (N)                      | 7. Tension of beaming: $<6000$ (N)  |
| 8. 位移精度: 0.001 (mm)                           | 8. Precision of displacement: 0.001 (mm)  |
| 9. 对条精度: 0.01 (mm)                            | 9. Paired bar precision: 0.01 (mm)  |
| 10. 位移范围: 0.001 ~ 9.999 (mm)                  | 10. Displacement range: 0.001-9.999 (mm)  |
| 11. 压浆压力: 0 ~ 7.4kN                           | 11. Squeezing pressure: 0-560 (kg)  |
| 12. 浆槽容积: 主浆槽 56(L)<br>辅浆槽 51(L)              | 12. Stock rough volume: main stock rough 56(L)<br>assistant stock rough: 51 (L) |
| 13. 蒸发能力: 180Kg/Hr<br>( 蒸汽压力 $\leq 0.35$ Mpa) | 13. Steam capability: 180kg/Hr<br>(vapor pressure $\leq 0.35$ Mpa)              |
| 14. 装机功率: 约 40(Kw)                            | 14. Installed power: about 40kW   |

## 工艺流程示意图 Technological Flow Sheet

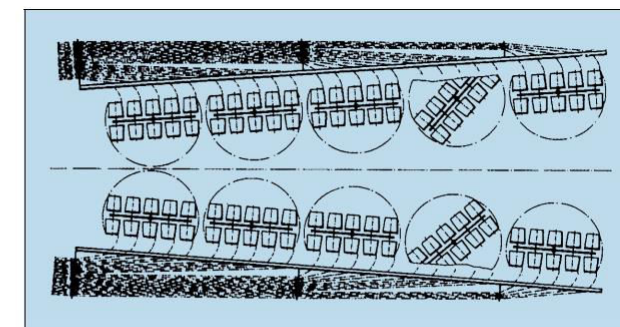
配筒子架流程图



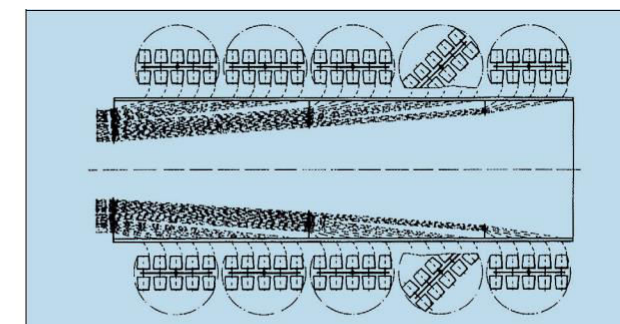
## 产品介绍 Production Introduction



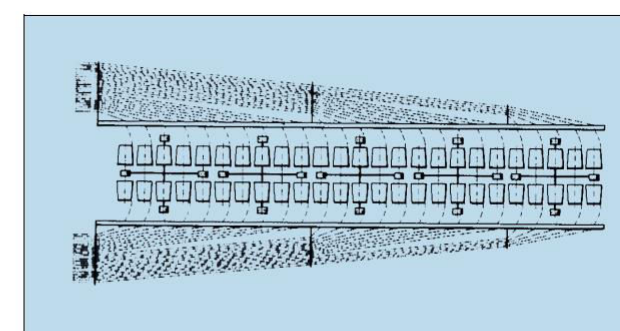
回转 V 型筒子架  
rewind V-shaped bobbin creel



回转矩形筒子架  
rewind rectangle bobbin creel



固定式筒子架  
fixed creel



# TongDa Machinery

## 产品介绍 Production Introduction



断经自停装置  
Wrap stop motion

双盘无立柱积极转动式张力器  
Double tray with no upright post, positive driving typed extension device



单立柱大挡纱盘张力器  
Single-post big yarn warding tray extension device



二柱式张力器  
Two-post typed extension device



三柱式张力器  
Three-post typed extension device



吊环式张力器  
Flying ring typed extension

与国际接轨 与世纪同行

Lines with international standards, goes together with century



## BRANCHES

- Shandong Tongda Textile machinery Co.,Ltd
- Qingdao Tongda Textile Machinery Co.,Ltd
- Qingdao Weaving Machine Co.,Ltd
- Shandong Tongda Nickel Screen Co.,Ltd
- Shandong Tongda Synthetic Co.,Ltd
- Shandong Tongda Textile Machinery (group) Co.,Ltd

## CONTACT INFORMATION

DE Global Consulting

(Authorised Agent for Tongda Machines)

11/12, Pushpa Apt. Vanaj Corner Kothrud,  
Pune-38

Phone : +918780041406;+917203018558

email : [sales@deglobalconsulting.com](mailto:sales@deglobalconsulting.com)

[atamvir.sharma@deglobalconsulting.com](mailto:atamvir.sharma@deglobalconsulting.com)

website: [www.deglobalconsulting.com](http://www.deglobalconsulting.com)



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