



GA163H(重载)型

分条整经机

GA163H(HEAVY LOAD)SECTIONAL
WARPING MACHINE



江阴市四纺机新科技制造有限公司

Jiangyin No.4 Textile Machinery New-Tech Manufacturing Co., Ltd.

地址：江苏省江阴市长寿

Add:Changshou, Jiangyin City, Jiangsu Province

电话(Tel):+86-510-86361210 86361460

国际贸易(International Trade Department):+86-510-86963830

服务热线(Service Line):+86-510-86362820

传真(Fax):+86-510-86361211 邮编(P.C.): 214424

邮箱(E-mail):4FJ@4FJ.COM

网站(Website):WWW.4FJ.COM

www.chinawarpingmachine.com

www.中国整经机.com



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呈现大张力，满足工业用布的整经机

THE WARPING MACHINE IS WITH BIG TENSION AND CAN SATISFY THE NEED OF INDUSTRIAL FABRICS



适用范围

适用于土工、建筑、农业、运动、防护、服装、包装、交通、航天航空等行业及使用各种复合材料的特种产业用纺织品等品种的分条整经。可作为剑杆、片梭等无梭织机的织前准备设备，是特种织物织造厂开发各种特种织物的优选设备。

Range of application

The sectional warping can be used for many industries ranging from civil engineering, construction, agriculture, sports, protection, cloths, package, transportation and aerospace to special industry involved in various composite material. The sectional warping machines can be used for preparation of shuttleless looms such as rapier loom or projectile shuttle, is the priority device of developing various special fabric for those special fabric weaving factories.



主要技术特征 Main technical features

- 整经和倒轴传动由交流变频控制，恒线速、恒张力、高速度运行。
- 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，完成整经刹车控制；比例阀控制重型外钢带阻尼方式，实现倒轴大张力的自动控制。
- 整经伺服传动采用双伺服电机滚珠丝杆结构，响应快、精度高、条定位和起点定位均一次按键自动完成。
- 交流数字伺服和滚珠丝杆传动的整经台前后移控制，实现整经过程中整经台的等距离后退。
- 整经台设有激光测量传感器多次测量整经纱层厚度，实现整经位移参数的自动测量，压纱辊保证纱层面更加平整。
- 表面经过特殊处理的二组张力辊由大功率伺服电机精确控制，与整经台上的压力传感器实现联动，实现整经全过程大张力的精确控制。
- 厚型钢质大滚筒，表面烤漆处理，附着力及耐腐蚀性能好，并经高精度动平衡校验。
- 采用通讯技术，机、电、气、液一体化设计。配置多套PLC、多套交流数字伺服变频、两套触摸屏，系统先进、可靠、自动化程度高。
- 整经主机在地轨上移动，分绞架、张力架和筒子架固定，使得条带相对于分绞架和筒子架中心不变，边纱张力更加均匀。
- 双变频电机和高精度斜齿轮减速机保证倒轴时实现更大的张力，传动更加平稳。
- 气动控制的安全栏杆装置，确保倒轴时更加安全可靠。
- 加强型筒子架，锭距、锭数可根据用户要求选定，并配有多种型式的筒芯和防气圈装置可供选择。
- 备有多种型式的高精度大张力张力器、加强型断经自停装置供用户选配。
- 整经台上配有静电消除装置，倒轴机配有上油装置、加压装置供用户选配。

- Warping and beaming is controlled by AC variable frequency, constant line speed, constant tension and high speed running.
- The oil pressure installation integrated together all those special machine, electricity, liquid and gas can produce oil pressure and drive brake-Jaw brake and realize the braking control of the warping machine; Proportional valve controls heavy external steel belt damping, thus the automatic control of the bigger tension for the beam section can be realized.
- Warping actuating transmission is of double actuating motor ball bearing screw bar structure, response quickly, high precision, and the determination of strip location and starting point location can be automatically achieved by once button pressing.
- AC digital actuating and the warping machine controlled by ball bearing screw bar transmission moving back and forth retreat the warping machine with equidistance.
- Laser measuring sensor is equipped on the warping machine and can measure the depth of yarn layers many times, the automatic measurement of the warping displacement parameters can be achieved, the yarn press roller ensures the yarn surface to be more smooth.
- Two sets of tension roller whose surface have been specially treated are precisely controlled by high power actuating motors, and are linked with the pressure sensor on the warping machine, therefore the precise control for the bigger tension during the warping process can be realized.
- Thick steel drum, the surface is paint treated, of better adhesive force and anticorrosive performance, and ever checked and verified by high precise dynamic balancing.
- Equipped with communication technology and with integrated design of machine, electricity, liquid and gas, the system is allocated with high performance PLC, many sets of digital actuating frequency alternation system, two touch screens, the system is very advanced, reliable, and of higher automation degree.
- The main body of warping machine is moved back and forth on the ground rail while leasing device, tension section, yarn creel remain stable, which maintains stable of warp stripe towards the center of leasing devices and creel, and the tension of the edge yarn is even.
- Double frequency alternation electric motor and high precision helical gear reducer can ensure the bigger tension in beaming, and the transmission is more smooth.
- Safe bar by pneumatic control can ensure the safety and reliability in beaming.
- Various reinforced creel are equipped, spindle pitch and spindle number can be selected in accordance with customers' specific requirements, and there are many types of bobbin cores and anti air balloon devices which are available for customers to choose from.
- Many models of high precision and bigger tension tensioner and reinforced warp stop installations are available for customers to choose from.
- Static eliminator device is equipped on warping machine, and oiling device and pressure device are equipped on beaming section.



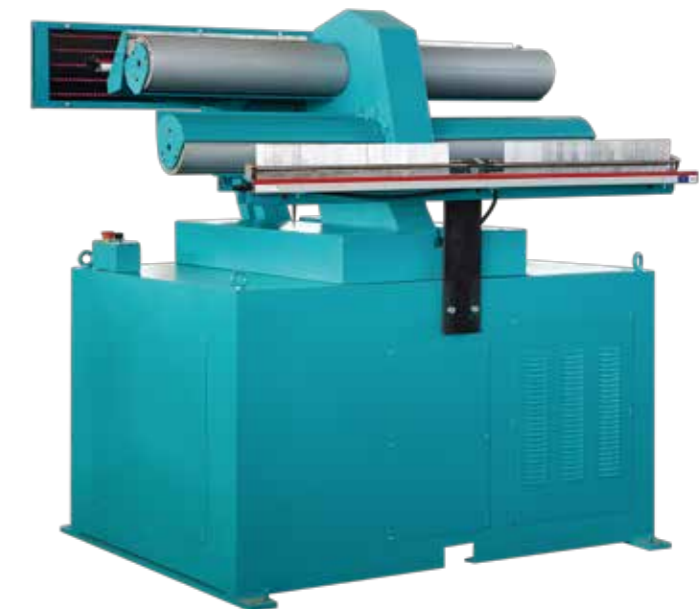
主要技术参数 Main technical parameters

1、有效幅宽 effective width	2300~5600mm	
2、织轴盘片直径 diameter of weaving beam flange Dia	800、1000、1250mm	
3、整经速度 warping speed	0~800m/min	
4、倒轴速度 beaming speed	0~200m/min	
5、倒轴实现张力精度 tension precision realized by beaming	≤±2%	
6、整经制动距离 warping braking distance	≤3m (500m/min)	
7、整经最大张力 maximum tension of warping	≤1250N	
8、倒轴最大张力 maximum tension of beaming	≤30000N	
9、大滚筒柱体直径 cylinder diameter of warp drum	1026mm	
10、锥体角度 cone angle	9° 或7.125°	9° or 7.125°
11、导条走丝速度 conducting bar moving speed	0.001~9.999mm/r (无级)	0.001~9.999mm/r (infinite)
12、条定位精度 strip location precision	≤0.1mm	
13、导条随动精度 conducting bar follow-up precision	0.02%	
14、条宽范围 Stripe width range	0.1~700mm	
15、整经电脑操作站 warping computer operation station	10.4寸彩色触摸屏	10.4 inch colorful touch screen
16、倒轴电脑操作站 beaming operation station	10.4寸彩色触摸屏	10.4 inch colorful touch screen
17、筒子架锭距 spindle distance	380×380mm 可定制	380×380mm can be customized
18、筒子架锭数 spindle number	480锭 可定制	480 spindle can be customized
19、输入电压 input voltage	3×380V±10%	
20、装机容量 installed capacity	50KVA、80KVA	
21、整经电机 warping electric motor	变频电机15 KW、18.5KW	frequency alternation motor 15 KW、18.5KW
22、倒轴电机 beaming motor	变频电机31KW、31KW×2	frequency alternation motor 31KW、31KW×2
23、张力辊电机 tension roller motor	伺服电机11KW actuating motor 11KW	
24、整经机主机重量 warping section weight	约6500kg about 6500kg	
25、倒轴机重量 beaming section weight	约6000kg about 6000kg	
26、筒子架重量 creel weight	约3500kg about 3500kg	



Z型中置张力恒定装置 Z-type constant tension mid-device

- 保证纱线与纱线之间、条与条之间同张力卷绕。
- 可以任意设定（增大或减小）条纱张力。
- 11KW伺服电机驱动张力辊。
- 满足高速度(≤600m/min)的分条整经。
- 独立系统，可单独选配。
- To ensure the same tension winding between differnt yarn and different strip.
- Piece yarn tension can be freely set (increase or decrease).
- Tension roller driven by 11Kw servo-motor
- Meet the requirement of high-speed sectional warping (≤600m/min)
- Independent system, can be equipped separately.



W型中置张力恒定装置 W-type constant tension mid-device

- 保证纱线与纱线之间、条与条之间同张力卷绕。
- 可以任意设定（增大或减小）条纱张力。
- 7.5KW变频电机驱动张力辊。
- 满足中等速度(≤300m/min)的分条整经。
- 独立系统，可单独选配。
- To ensure the same tension winding between differnt yarn and different strip.
- Piece yarn tension can be freely set (increase or decrease).
- Tension roller driven by 7.5Kw variable frequency motor
- Meet the requirement of medium-speed sectional warping (≤300m/min)
- Independent system, can be equipped separately.





倒轴上油装置 Oiling device

- 变频上油，可以控制上油量。
- 油槽可以升降。
- 可选配
- Variable frequency oiling, oil quantity can be controlled.
- Oil box can rise and fall.
- Optional



上、下轴装置 Beam doffing device

- 液压系统驱动织轴上下，最高负载可达4000KG。
- Hydraulic system can drive weaving beam up and down, the maximum load can reach 4000kg.



倒轴双电机收卷模式

Double electric motor withdraw and release mode

- 双变频电机主动收卷，可以实现更大的片纱张力。
- 气动钳式制动，停车时张力保持更加稳定。
- Double frequency alternation electric motor automatic winding, the maximum yarn slash tension can be realized.
- Air-liquid brake-jaw brake, tension remains more stable in braking.



倒轴直线加压装置

Linear pressure system for beamig.

- 保证织轴卷绕纱面获得恒定的正压力。
- 可选配。
- To ensure the constant positive pressure on weaving beam
- Optional.



电气控制系统 Electric control system

- 采用PLC通讯技术。
- 人机对话，真彩显示。
- 工艺信息输入输出更为简便。
- 工艺过程参数自动计算，并能即时显示。
- 多套工艺参数储存，可供选择。
- 故障显示，并提示排除方案。
- To adopt PLC communication technology.
- Man-machine interaction, true color display.
- Simple and easy for processing information input and output.
- Parameters automatically calculation in processing process, and can be real-time displayed
- Many sets of processing parameters are available.
- Error display, and error elimination scheme is also displayed.



整经触摸屏工作站

Warping touch screen



倒轴触摸屏工作站

Beaming touch screen



智能整经操作台 Intellegent warping operation station

- 协同张力机组实现张力闭环控制。
- 位移量自动测量。
- 保证滚筒纱面卷绕成形良好，拥有恒定的卷绕密度。
- To realize tension enclosed loop control with tension units.
- To automatically measure the displacement.
- To guarantee better winding of warp beam and keep constant winding density.

