

# **LOOM** System

织造系统

RAPIER LOOM 剑杆织机



## 关于日发纺机

日发纺织机械股份有限公司成立于2002年,注册资金6948.7万。公司系国家重点高新技术企业,国家机械工业重点骨干企业,国家863计划CIMS工程示范企业,国家CAD应用工程示范企业,国家火炬计划重点高新技术企业,中国纺织机械协会副会长单位。现旗下控股山东日发纺织机械有限公司、安徽日发纺织机械有限公司、浙江日发纺机技术有限公司。

公司以成为"敏捷化的国际性公司"为愿景,以"在机电产品制造领域向客户提供工业加工过程的单台设备、工段、车间、组合生产线,协助客户实现数字化工厂的梦想"为使命,致力于机电行业的"数字科技",已成为国内外享有高知名度的纺织设备生产企业。二十几年来已成功开发纺纱、加捻、织造、非织造四大系统,清梳联、转杯纺纱机、涡流纺纱机、倍捻机、直捻机、精密并纱(络筒)机、自动穿经机、喷气织机、剑杆织机、毛巾织机、喷水织机、针织圆机、无缝内衣机、无水印花机、非织造布设备等系列的上百种产品,涉及纺织行业的各个领域。产品遍及全国各地,并销往全球30多个国家和地区,在各个行业的市场占有率位居前列。



日发纺机正致力于创造崭新的"数字科技"理念,在未来的整机生产中,建立"人流、物流、信息流"的互动平台,实现科技、环境、制造的和谐统一。铸就"信息化、敏捷化、国际化"的机械制造生产基地。

山东日发纺织机械有限公司系日发纺机全资子公司,是国内最早制造无梭织机的厂家之一,致力于研发、制造具有国际水准的各类无梭织机。公司主要产品为系列喷气织机、剑杆织机、毛巾织机、喷水织机、针刺、水刺非织造布设备、自动穿经机,二十多年的专业经验使山东日发纺机成长为我国无梭织机的主要研发、制造基地。





## **About Us**

Zhejiang Rifa textile machinery co., Itd. Is founded in august, 2002 with a registered capital of 69.487 million yuan. The company is one of the national key high-tech enterprises of the china's textile industry, a key enterprise of china's machinery industry, demonstration enterprise of both china national 863 planning CIMS engineering and national cad application engineering, a high-tech enterprise of china national torch plan, vice president unit of china textile machinery association. Rifa company now has three subsidiaries under it, namely Shandong Rifa textile machinery co., Itd., Anhui Rifa textile machinery co., Itd. And Zhejiang Rifa textile machinery tech co., Itd.

With the vision of "become an agile and international company" and the mission of "supply to the customer with single equipment, workshop section, workshop, combined product line in the area of machinery-electronic industry, assisting our customer realize their dreams of digital factory", Zhejiang Rifa textile machinery co., Itd. Is devoted to the area of "digital technology" in mechanical and electrical industry, and has become a well-known textile equipment manufacturer with excellent reputation at home and abroad. For over twenty years, the company has successfully developed four series of textile machine systems of spinning, twisting, weaving and non-woven equipment, including blow-room machine, rotor spinning machine, air jet vortex spinning machine, two-for-one twister machine, twister machine for tire cord, precise winding machine( precise rewinding machine), automatic warp drawing machine, air jet loom, rapier loom, terry towel loom, water jet loom, circular knitting machine, waterless decorating machine and non-woven equipment etc hundreds of machines... The products have been distributed to all areas around china and sold to more than 30 foreign countries and regions with a leading market share in each respective industry.

Rifa is devoting itself to create a whole new theory of digital technology, establishing an interactive platform of "people flow, material flow and information flow", realizing harmony and unify of science and technology, environment and manufacturing, and aiming to become a manufacturing base of "informatization, agility and internationalization".

Shandong Rifa textile machinery co., Itd is a wholly owned subsidiary of zhejiang Rifa textile machinery co., Itd., it is one of the earliest manufacturer of shuttleless weaving machines in china, devoting itself to research and manufacture top grade all kinds of shuttleless looms. Air jet looms, rapier looms, terry looms of rapier and air jet, water jet looms and needle&spunlace non-woven equipment, automatic warp drawing machine. More than 20 year experience has it grown to be the main research and manufacture base of shuttleless weaving machines.



# RFRL50 织造系统

## 系列高速剑杆织机 SERIES HIGH SPEED RAPIER LOOMS



山东日发纺机一直致力于纺织技术增值的研究,使客户更经济的生产出更好的产品, RFRL50型高档剑杆织机的成功开发便立足于此。高效的织造、人性化的设计、强劲的打纬力、良好的高速稳定性、先进的电气控制系统、便捷的操作性是织机的独有特色。

RFRL50型高档剑杆织机具备国际上先进主流机型的先进功能。织机的打纬机构设计在织机支承梁上,并合理布置数量,使织机打纬机构的刚性和整体运动的平衡性有了很大的提高,从而更高效、更节能、更稳定。





Shandong Rifa Textile Machinery Co, Ltd continually researches to use new technology to increase value in textile industry, to have customer making better products economically. RFRL50 high speed rapier loom was developed just on this concept. This model machines have some unique advantages including high efficiency, humanized design, strong beating strength, excellent stability at high speed, advanced electrical control, easy operation and so on.

RFRL50 top grade rapier looms have the advanced functions. Beating devices are designed on the loom support beam, the rigidity and balance is increased a lot, looms can run higher efficiency, less power consumption and stable.

## RFRL50

## 系列高速剑杆织机 SERIES HIGH SPEED RAPIER LOOMS

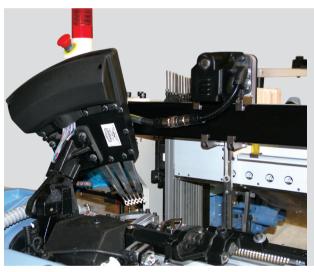


## 电子卷取和电子送经

电子控制的卷取和送经作为标配安装在织机上,两个伺服马达通过一个集成控制箱实现精准同步,该设计保证了织物的质量,送经及卷取减速装置均直接装于两侧墙板侧面,结构更加简单紧凑。

## Electronic Take-up & Let-off

ETU& ELO is a standard configure of RFRL50. Two servo motors are cotrolled by a compositive controlling box, which ensureslet-off and take-up running synchronously. It is a guarantee for quality production.



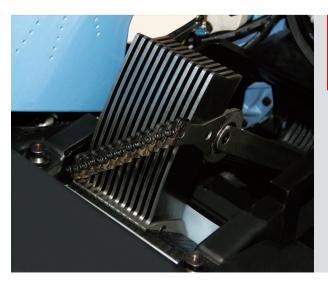
#### 先进电子布边系统和电子选纬

有独立的步进马达电子式驱动.电子布边系统装于综框前方,因此所有综框全部用于组织花纹的织造,布边的综平时间及花型在微处理器上进行设定,且可以与地组织的综平时间不同,同时该设定可以在织机运转期间调整,因此可以立即在布面上看调整后的结果。

Advanced Electronic Selvage System and Selector Independent electronic selvage devices with step motors are installed front of heald frames, so all heald frames can be used for fabric weaving.

Shed levelling time and design of selvages can be set on microprocessor.

The levelling time can be different to the ground structure of cloth. All the setting can be made duringloom running.

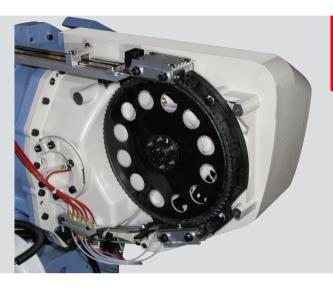


## 高速开口传动机构

开口动作由超级马达直接驱动积极式电子多臂装置,最多可配20片综框,可满足强劲动力开口,通过CPU和电子调速系统的精确控制,实现织机慢速、寻纬等动作。

## High-speed Shedding Transmission

Electronic dobby is driven by super moor directly, max can equip with 20 heald frames, cloth-fell motion is powerul. Slow-motion and pick-finding is cotrolled by CPU and speed control system.

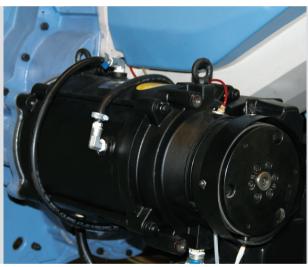


## 高速引纬系统

引纬系统采用空间连杆结构,并与凸轮轴同轴,它由扇形齿轮带动剑轮往复运动。该系统结构简单稳定,布局合理,受力冲击很小.减少了机构的故障率,提高了织机的使用寿命。

## High-speed Insertion System

Insertion system adopts spatial linkages which are concentric with cam shafts; insertion motion is driven by sector gears. This system is simple but stable, avoids most malfunctions and extends the loom life.



## 低能耗主马达

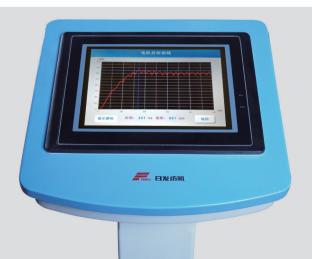
采用超启动马达直接驱动织机,优化电机结构,更适合高速特点。可通过触摸屏方便的调整车速,取消主传动离合器及皮带,强力高效的齿轮传动,可降低易损消耗及故障率,减少维护成本。主电机实现全自动找纬,钢筘不动,只有综框运动。电机采用循环油冷却,使用寿命长。

## Low Power Consumption Motor

RFRL50 adopts super start motor to drive machine directly, this is very suitable for high speed running. Change speed on touching screen conveniently. Without main drive clutch and belt, direct drive is more powerful, this can reduce power consumption and maintenance cost.

Main motor drives pick-finding automatically. During reversing reed keep stop, only heald frames move.

Main motor adopts oil circulation cooling system which can ensure motors a long life.



## 全方位控制 先进电子调速系统

采用10英寸交互式触摸屏的友好界面.可存储多种织物设定参数,微处理器控制织机所有的功能,进行记录、分析并存储所有生产数据。织机转速在操作界面任意设定,调速范围宽,快速启动,准确定位刹车,可实现无级调速。有效减少纱线断头和开车痕,满足不同品种纱线和织物的需要。自动换纬功能的设计,即使发生断纬,织机也不会停下来。

平综时间可在一定的角度范围内电子设定,无需机械调整, 既能控制织物的风格,又方便调整、提高效率。

### Overall Control, Advanced Speed Control System

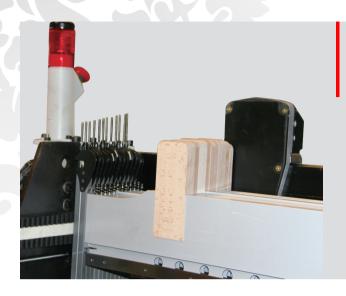
RFRL50 adopts 10 inch interactive touching screen friendly interface, which can store plenty of parameter settings of cloth. CPU controls all the functions, working records, analyze and store all production data.

Loom speed can be set freely on operation interface, speed adjustable range is big, start is fast, brake is accurate, can realize stepless speed change. This can reduce yarn breaks and prevent marks.

With automatic weft switch function, even weft breaks loom needs not stop. Shedding levelling time can be set in a certain angle range, mechanical adjustment is not needed, this can well control cloth quality, and also machine is easy to operate.

## RFRL50

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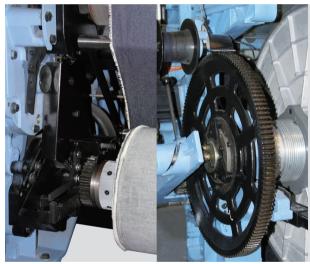


### 便捷的快换综框设计

标配调节式综框. 综框和开口机构可快速连接,综框高低在综框上方调节,操作方便.更换品种时综框能快速移走,提高了工作效率。

## Fast-change Heald Frame

RFRL50 can equip with not only normal heald frames with underneath hooks but also adjusted heald frames. Heald frames and shedding devices can be connected quickly, it is easy to adjust the height of heald frames.

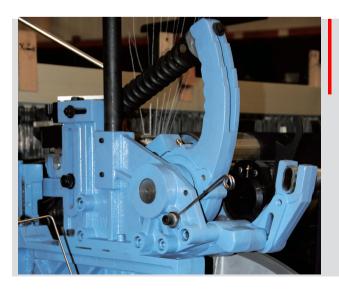


### 快换织轴 快换卷布辊结构

可配置快换织轴系统,减少换轴时间,提高织造效率。

#### Fast-change Beam & Cloth Roller

RFRL50 can equip with fast-change beam system, this can save time and increase efficiency.



## 适应性强的双后梁和双卷取导辊

标配双后梁和双卷取导辊,适合厚重织物的织造。第二根罗拉为模块化设计,在织造轻薄织物 时可以从织机上很方便的取下。

#### Double Back-rest&Take-up Roller

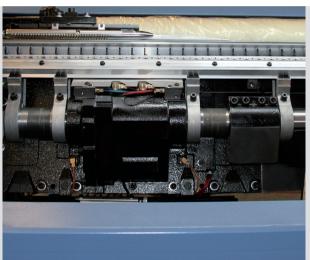
RFRL50 equips with double back-rest and double takeup roller as standard specifications, with this design it can weave high quality heavy fabrics. The second roller is modular in design,it can be removed easily when weaving light fabrics.



## 可调纬剪 稳定的边撑结构

采用设计更加合理的纬剪机构和边掌结构,安装方便,机械性能更加稳定可靠,增加了织物的织造品质。

Adjustable Weft cutter; Stable Temple Structure Adopts more reasonable weft cutter and temple structures,it is easy to install,mechanical performance is more reliable; this can ensure a good weaving quality.

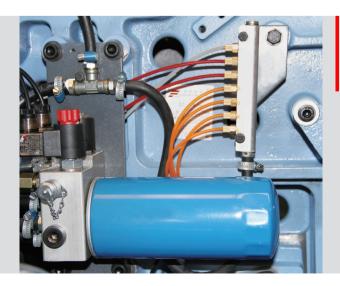


#### 打纬系统

打纬凸轮装置位于织物下方内嵌于胸梁里面,这种设计使得打纬机构的刚性、打纬力和整体运动的平衡性提升,更适合宽幅、高覆盖系数织物的织造,中间铝合金支架使钢筘的直线度更好,剑头、剑带在行程中能保持良好的直线运动。

#### **Beating System**

Beating cams are inbuilt in breast beam underfabric; this design can increase the beating strength and working balance; more suitable for wide width and high cover factor fabrics. The aluminium alloy supports can ensure the reed a good linearity.



## 集中润滑

采用单独油泵电机驱动油路, 织机的关键运动部件由专门的洞滑管道强制润滑, 确保各运动部件获得良好的润滑。

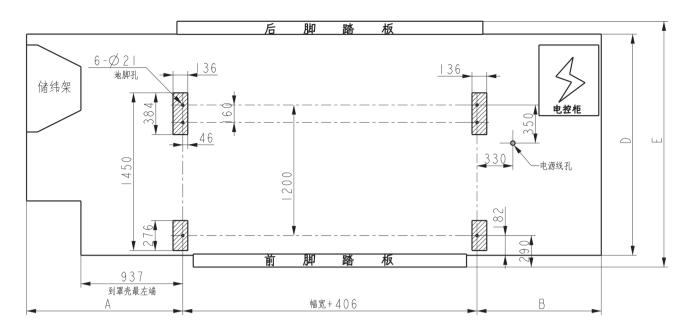
### **Center Lubrication**

Adopts independent motor to drive oil pump; all the important motion components are forced lubricated by independent pipes.

# RFRL50 织造系统

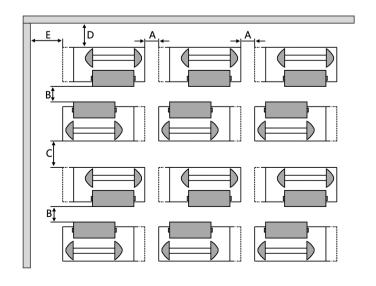
## 技术规格、尺寸图 SPECIFICATION&DIMENSIONS

项目Item	规格	Spcification			
<b></b>	公称筘幅: 190、210、220、230、240、250、280、 320、340、360cm	Nominal: 190 \ 210 \ 220 \ 230 \ 240 \ 250 \ 280 \ 320 \ 340 \ 360cm			
Reed width	幅宽变化(含废边):+6~-70cm	Width reduction(including false selvage): $+6 \sim$ -70cm			
织造范围 Yarn range	短纤: Nm200-Nm3(Ne120-Ne1.8)	Spun yarn: Nm200-Nm3(Ne120-Ne1.8)			
	长 <u>丝</u> : 10dtex~1500dtex	Filament: 10dtex~1500dtex			
	导钩式或自由飞行式	With guide hooks,or free flight			
	经纱:上浆纱、不上浆纱、加捻纱、无捻纱、 混合纱	Warp yarn: sizing yarn, non-sizing yarn, twisted yarn, non- twisted yarn, mixed yarn			
织机速度 Weaving speed	设计转速: 750转/分	Designed speed: 750rpm			
	工艺转速: 500~650转/分 (根据织机幅宽配置、织物品种、织造环境而定)	Practical speed: 500~650rpm (According to loom widths & specifications, fabric qualities, and weaving conditions.)			
	最大入纬率: 1520米/分 (根据织机幅宽配置、织物品种、织造环境而定)	Max insertion rate: 1520m/min (According to loom widths & specifications, fabric qualities, and weaving conditions.)			
	纬纱选择:1~8色,可同时织造2根纬纱 (根据纬纱品种、规格而定)	Selector:1-8 color, same time may insert 2 picks (According to weft variety and specification)			
纬纱 Weft	储纬:电子储纬器	Accumulator: electronic			
	纬剪:机械式	Weft cutter: mechanical			
动力Power	采用开关磁阻电机调速系统,节能降耗,性能优越	Switched-reluctance motor speed control system			
开口Shedding	电子多臂机(最多20片综框)	Electronic dobby (max 20 shafts)			
77 [Jonedding	电子提花机	Electronic jacquard			
打纬Beating	分离筘座、双侧共轭凸轮打纬	Separate sley, both sides conjugate cam			
引纬Insertion	双侧空间四连杆引纬	Both sides spatial four link insertion			
	连续式交流伺服电子送经	Continuous alternative current servo electronic let-off			
送经 Let-off	单经轴	Single beam			
	边盘直径:Φ1000mm、Φ800mm	Beam flange dia: Φ1000mm、 Φ800mm			
	连续式交流伺服电子卷取	Continuous alternative current servo electronic take-up			
卷取	最大卷布直径Φ600mm	Max cloth roller dia. Φ600mm			
Take-up	机构纬密范围: 4~130根/厘米 ( 4~30、6~70、10~130) (具体织造纬密根据纱线规格、织物组织、织机转速、织造环境而定)	Weft density range of mechanism: $4 \sim 130$ picks/cm $(4 \sim 30, 6 \sim 70, 10 \sim 130)$ (The specific weft density depends on the yarn specifications, fabric weave, loom speed and weaving environment)			
	绞边装置:电子绞边	Leno device: electronic			
布边 Selvage	边剪:标配电子式 (机械式选配)	Selvage cutter: electronic(options:mechanical)			
	边撑: 左右独立边撑	Temple: LH & RH independent			
润滑 Lubrication	集中油浴润滑+油枪润滑	Centralized + grease gun			
	经停: 6列或8列电气触点式停经装置	Warp stop:6 or 8 lines electric touch-type			
停车装置 Stop motion	纬停: 电子式高灵敏压电检测装置, 有防双纬功能	Weft stop: electric piezoelectric sensor, with double pick function			
	其它: 绞边纱、废边纱断头自停	Others: auto stop for selvage yarn			
	停车显示:控制面板显示停车原因,多功能4色灯显示	Stop display: show stop reason on screen,multi-function 4 color lights			
自动功能 Automatic	自动定位停车/慢速寻纬/织口补偿/调整经纱张力,自动检测/复位/故障显示	Automatic stop at certain angle/low motion pick-finding/cloth fell compensation/warp tension adjustment, auto inspection/reset/fault indication			
电气控制 Electric	控制:多功能CPU控制系统,能控制、监控、自动诊断、信息显示	Control: multiple function CPU control system. with functions of control, monitor, auto diagnose, data indication			
controlling	显示:触摸屏显示双向通讯,即时调整/设定参数、编程	Display: touching screen with intercommunication, immediate adjustment/parameter setting, programming			

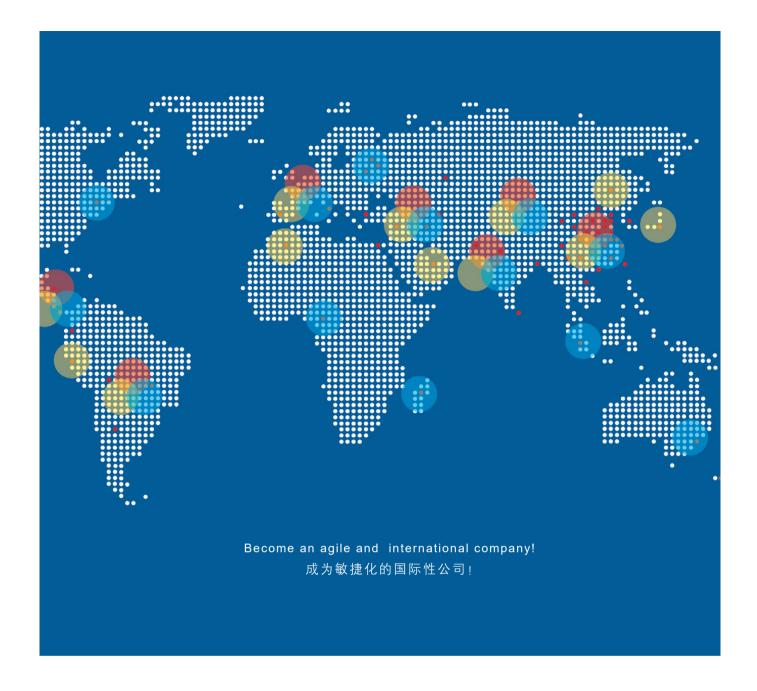


A(垂直筒子架)		В		D(无	E(有踏板)	
2/4/6色	6/8色	多臂机	提花机	经轴 <b>Φ800</b>	经轴 Φ1000	经轴 Φ1000
1437	1937	1143	1156	2031	2034	2260

重量(kg)									
幅宽(cm)	190	220	230	240	250	280	320	340	360
多臂机	4200	4300	4400	4450	4500	4800	4900	5000	5100
提花机	3900	4000	4100	4150	4200	4500	4600	4700	4800



Α	600-800		
B*(**)	750-800		
С	1250-WВФ800		
C	1500-WBФ1000		
D	1500-2000		
E190cm	2500-3000		
E220cm	2800-3300		
E230cm	2900-3400		
E240cm	3000-3500		
E250cm	3100-3600		
E280cm	3400-3900		
E320cm	3800-4300		
E340cm	4000-4500		
E360cm	4200-4700		



## 浙江日发纺织机械股份有限公司 ZHEJIANG RIFA TEXTILE MACHINERY CO.,LTD

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