

POWER-FRAME

*Stenter for textile and
technical applications*

用于普通纺织品和
产业用布的定型机



BRÜCKNER – FASCINATING TEXTILE MACHINERY

The stenter is the heart of textile finishing. It develops more and more into a multi-purpose line for the production of technical textiles and other web-shaped materials. Several thousands of BRÜCKNER stenters are in use all around the globe. Every day they are stentering, drying, heat-setting, functionalizing and coating incountable meters of the most different fabric types. Since many decades BRÜCKNER stenters stand for highest quality and performance and are producing sustainably and energy-efficiently.

布鲁克纳 – 倍具吸引力的纺织机械

定型机是后整理工序中的核心。它逐渐发展为多功能性的机器，以满足不同纺织品的生产需求。布鲁克纳已在全球市场销售了数千台定型机。每天它们被用来对不同的面料进行拉幅，烘干，热定型，功能性整理和涂层。数十年来，布鲁克纳的定型机代表了最高质量和性能，生产的可持续性和高效节能

HIGH-TECH PRODUCTION IN GERMANY

位于德国的生产基地

For many years now, BRÜCKNER is among the leading system suppliers for the textile industry and related branches. In our state-of-the-art and flexible manufacturing plant in Germany, machines and plants are being produced only at the highest stage of quality. We invite you to come and visit our plant in Bavaria.

Via worldwide customer service and contact, we are capable of detecting new technologies and potentials for development, and thus continually optimise our know-how and our service. In addition, we ensure original spare parts to be delivered quickly worldwide and to still be available after many years.

Made in
GERMANY

多年来,布鲁克纳一直处于纺织后整理机械的领导行列。在我们位于德国的现代化的工厂内,所有机器都按照最高的质量标准来生产。欢迎您前来参观我们位于巴伐利亚州的工厂。通过对全世界客户的接触和服务,我们能够感知新的技术和发展的潜力,从而继续优化我们的技术和服务。另外,我们可向世界各地快速提供原装的零备件,即使是很多年的老机器的零备件也能提供。



Stenter with two padders, horizontal chain and gas heating

配有两个轧车,水平链条,天然气加热的定型机

SPLIT-FLOW POWER-LINE STENTER

分流式热风循环定型机

BENEFITS

- Highest drying performance and process control matching any type of fabric due to the technically mature and patented split-flow air circulation system
- Very homogeneous air flow and temperature distribution due to alternately arranged thermo zones (every 1.5 m).
- Very low specific energy consumption
- Extremely robust chains, chain rails, pin bar carriers and clips, needing only little maintenance
- Exactly reproducible finishing results because of a complete automation and recipe administration in the line
- Available types of heating: Gas direct, gas indirect, thermal oil, steam, electricity and combinations thereof
- Working widths up to 7 m are realized, depending on the type of application
- Optimum straightening results due to an integrated straightener with shortest possible fabric path to the pinning-on point, available as option
- Optimum mixing of circulating air with fresh air due to the Venturi system

优点

- 最佳的烘干性能和工艺控制,可满足各种织物。这得益于技术成熟和专利设计的分流式热风循环系统。
- 非常均匀的气流和温度分布。这得益于交错排列的烘箱结构(每1.5米交错)
- 非常低的能耗
- 非常结实的链条,轨道,针板座和布铗。仅需很少的维护。
- 生产重现性好,因为有完整的自动化控制和工艺参数管理系统。
- 可提供不同的加热方式:天然气直接加热,天然气间接加热,导热油,蒸汽,电或组合式加热。
- 最大有效工作门幅可达7米,视工艺需求而定。
- 出色的整纬效果,得益于可选配置整纬单元,其到上针点的距离较短。
- Venturi系统可将循环热风与新鲜空气在燃烧器处进行充分混合。

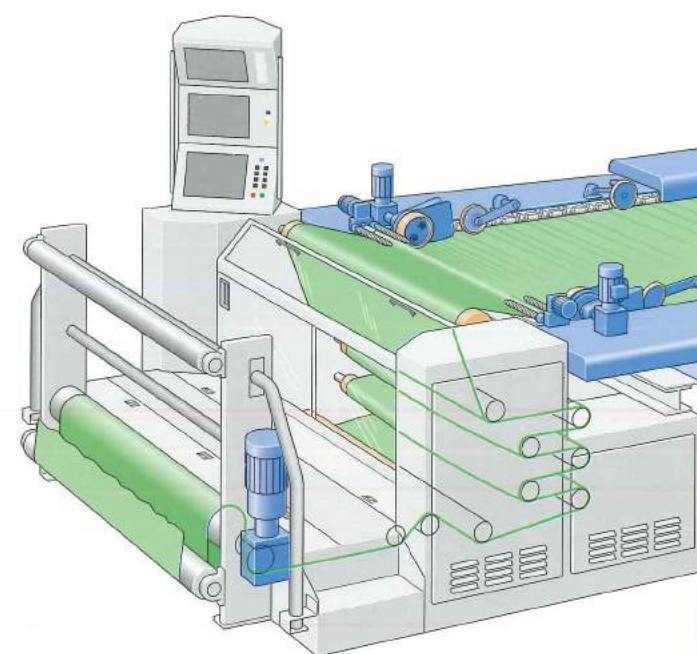


Stenter with horizontal chain system and gas heating

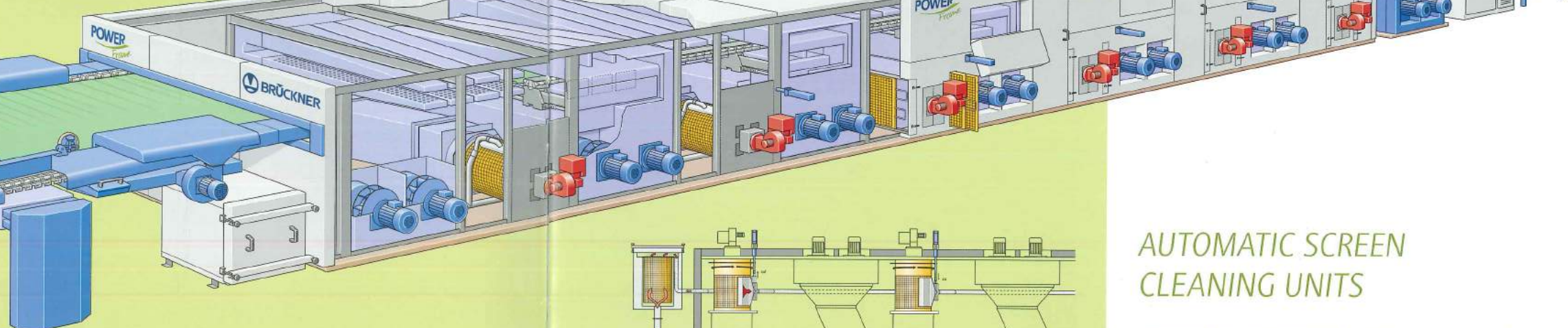
配有水平链条,天然气加热的定型机

THE STENTER AT A GLANCE

定型机立体示意图



POWER
Frame



CLEANING FLAPS

On demand we supply our stenters with cleaning flaps which are arranged above the circulating air fans, opposite to the dryer doors. The nozzles are thus easier accessible which is particularly important in case of confined space conditions. The lint can be removed through these flaps by vacuum-cleaning.

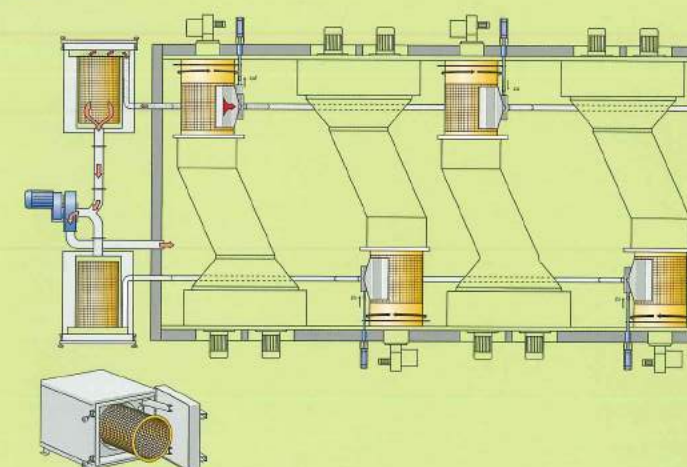


Optional cleaning flaps

选配的清洁窗口

清洁窗口

如果需要的话,我们可在定型机的循环风机马达上方安装清洁窗口,在烘箱侧门的对面。万一空间有限,可便于接近喷嘴。可通过吸尘器从这些窗口吸走杂物。



Schematic diagram of the automatic screen cleaning unit

自动过滤清洁系统的示意图



AUTOMATIC SCREEN CLEANING UNITS

Instead of the retractable lint screens we supply our dryers on demand also with automatic screen cleaning units. The driven screen drums are arranged alternately every 1.5 m and are provided with a traversing suction nozzle. The lint from all drums is led through a central evacuation system to a collecting tank. The cleaning cycles and the selection of the drums to be cleaned are freely programmable.

自动过滤清洁系统

除了手动的可抽取的清洁过滤网之外,我们还可提供自动过滤清洁系统。每隔1.5米交错放置传动的过滤网转鼓,还配有来回移动的抽吸喷嘴。所有转鼓上的杂物都通过中央抽吸系统集中到一个收集槽里。清洁周期和清洁转鼓的选择都可以自由设定。

Automatic screen cleaning unit within the dryer

在烘箱内的自动过滤清洁系统

SPLIT-FLOW AIR CIRCULATION SYSTEM 分流式热风循环系统

The patented split-flow air circulation system is characterized by separate air circuits for the upper and lower air nozzles and has many benefits for the user. Beside the proven round-hole and slot nozzles we supply our dryers on request also with montaña nozzles. These nozzles provide for a higher evaporation capacity and a more turbulent fabric movement.

专利设计的分流式热风循环系统的特点是上下喷嘴的气流是独立的,可获得很多优点。除了圆孔状和槽状的山峰喷嘴之外,我们还可提供montaña喷嘴。这些喷嘴可提供较高的蒸发能力和更好的织物振荡效果。

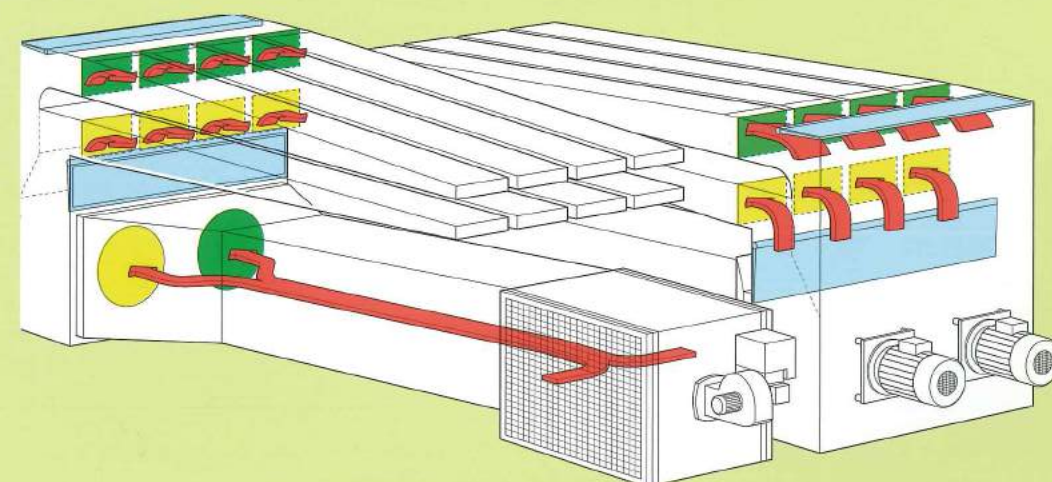


BENEFITS

- Air flow and temperature can be set separately for the upper and lower air nozzles via two circulating air fans in each half-zone
- Homogeneous temperature and air distribution across the complete length and width of the dryer due to alternately arranged thermo-zones every 1.5 m
- Optimum tumbling effect due to intensive and absolutely homogeneous air circulation
- No overdrying of the fabric during machine standstill, prevented by the circulating air bypass system
- The finishing of delicate articles is easily possible due to selective temperature and air flow control
- Lowest possible energy consumption and highest possible production capacity due to a minimum air pressure drop

优点

- 每半节烘箱有2个循环风机,分别单独控制上下喷嘴的气流。
- 在整个烘箱的长度和宽度范围内,可获得均匀的温度和气流分布。得益于每隔1.5米交错排列的烘箱结构。
- 密集而均匀的气流,可在织物上获得出色的振荡效果。
- 气流旁通系统,可在意外停机时保护织物。
- 对于敏感织物,也可方便处理。得益于可选择的温度和气流控制系统。
- 能耗低,产量高,空气压力下降小。



Patented split-flow air circulation system with alternately arranged thermo-zones every 1.5 m

专利设计的分流式热风循环系统,烘箱每隔1.5米交错排列

HEATING SYSTEMS

加热系统



Gas burner at a stenter

定型机的燃烧器

The BRÜCKNER stenter can be provided with the following heating systems if desired by the customers:

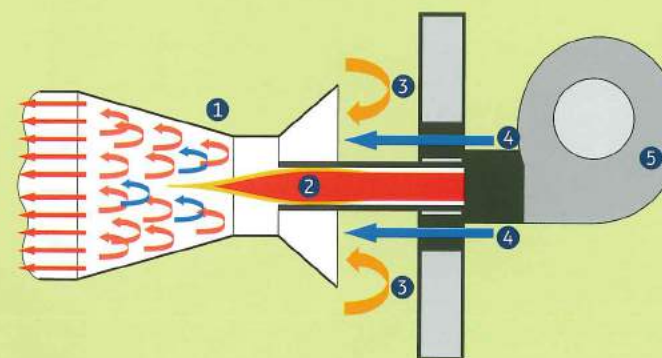
- Gas heating with direct gas firing
- Gas heating with indirect gas firing
- Thermal oil heating
- Steam heating
- Electrical heating
- Combined systems of the above heating media

布鲁克纳定型机可以根据客户要求提供下列几种加热系统:

- 天然气燃烧直接加热
- 天然气燃烧间接加热
- 导热油加热
- 蒸汽加热
- 电加热
- 上述几种方式的组合

VENTURI MIXING SYSTEM

VENTURI空气混合系统



- ① Venturi-nozzle
- ② Flame tube
- ③ Circulating air
- ④ Fresh air
- ⑤ Burner

- ① Venturi 喷嘴
- ② 火焰管
- ③ 循环空气
- ④ 新鲜空气
- ⑤ 燃烧器

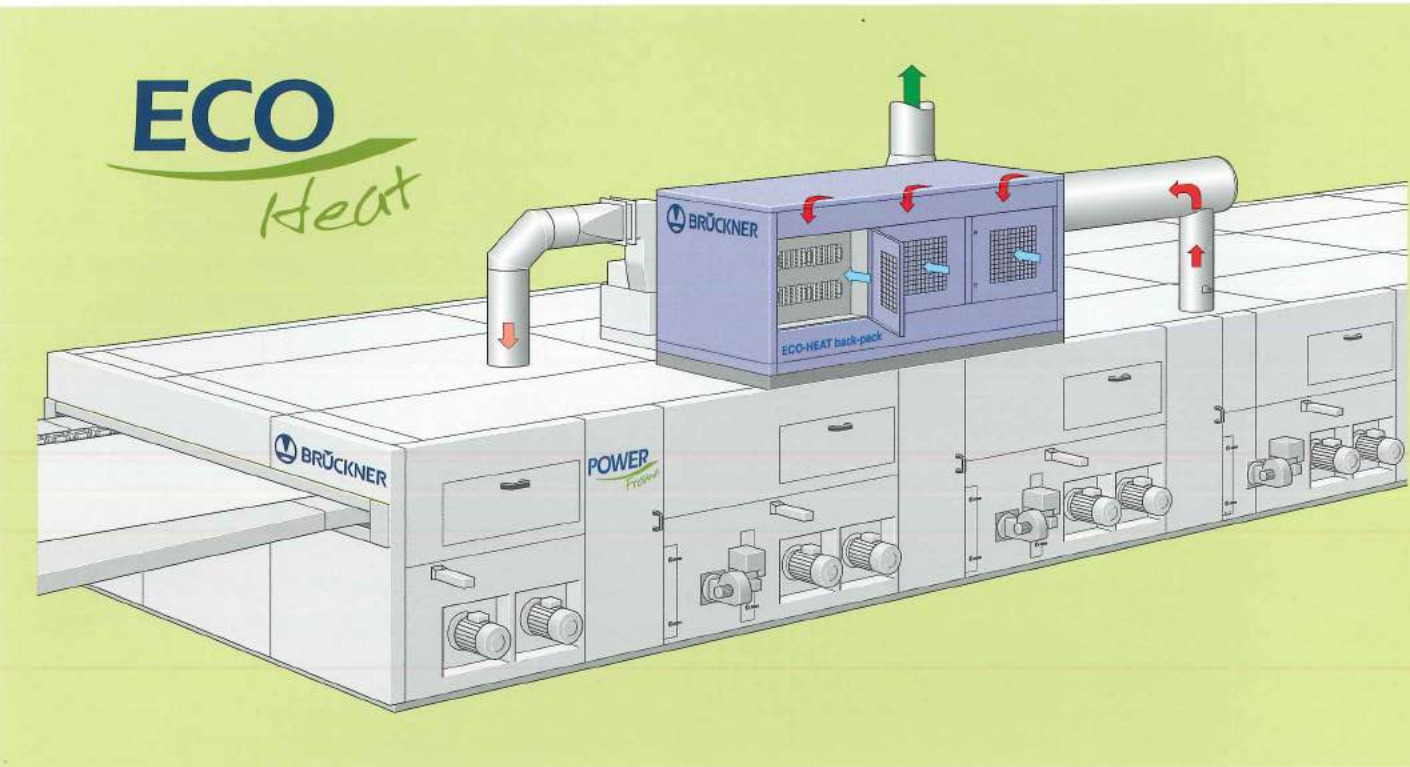
For an equal, homogeneous heating of the process air with direct gas heating the Venturi mixing system patented by BRÜCKNER is used. It provides for an optimum mixture of circulating and fresh air. Minimized flow resistances allow an effective saving of energy.

为了对空气进行均匀的加热,在天然气加热系统上我们使用了专利设计的Venturi混合系统。它可将循环热风和新鲜空气进行充分混合。气流阻力小,可减少能耗。



ECO-HEAT HEAT-RECOVERY TYPE BACK-PACK

ECO-HEAT 热回收系统



BENEFITS

- High energy saving and therefore payback times of clearly less than 1½ years
- Modular design, therefore easy cleaning of the easy-to-handle and robust heat exchanger packages
- Lamellar heat exchangers made of aluminium with anti-adhesion coating and optimum power density
- Almost interruption-free production is possible
- No additional scaffold is required since the unit is integrated into the dryer
- Can be retrofitted to most dryers
- Different sizes available

New heat exchanger modules for easier handling

新的热交换器模块，易于搬运



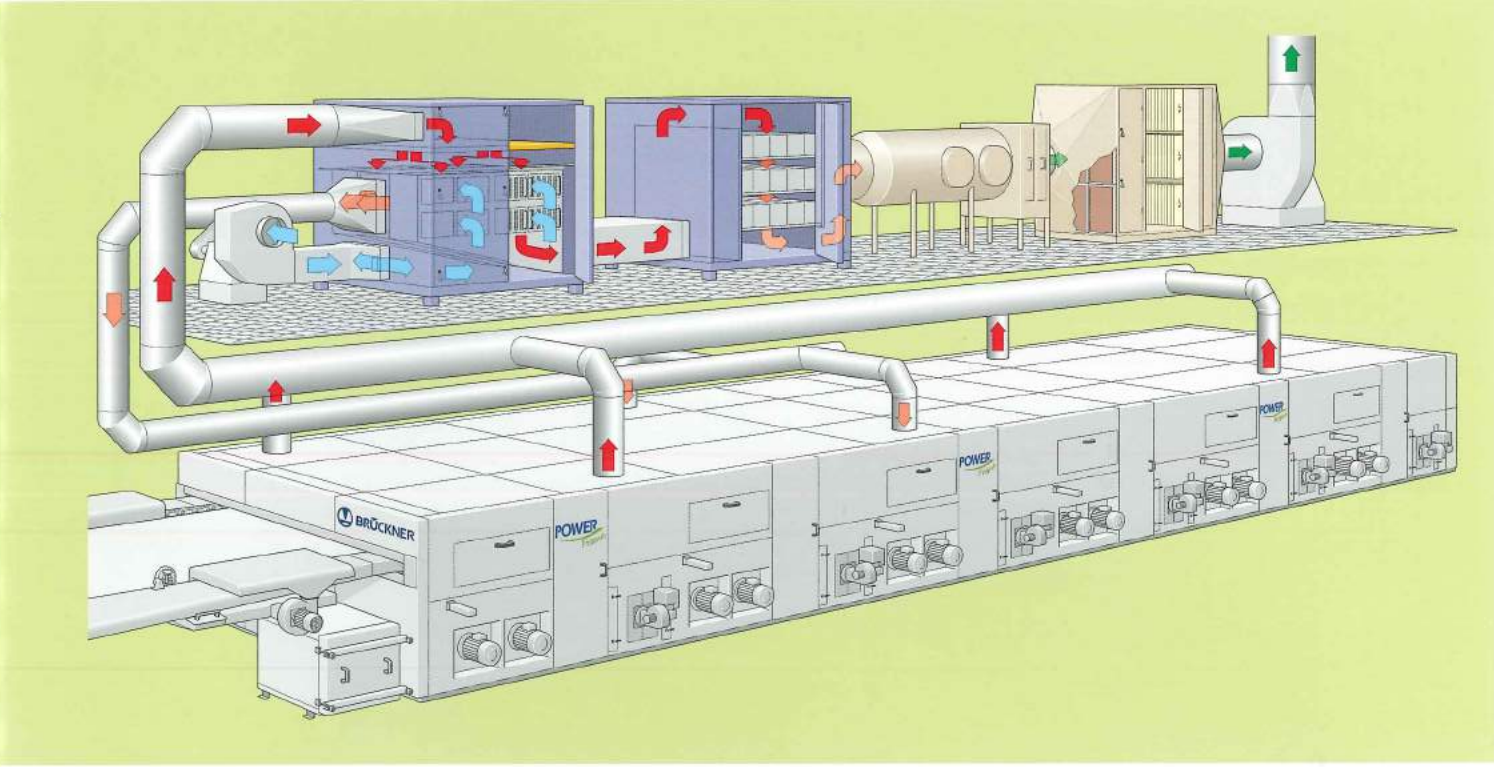
优点

- 可节省能耗，投资回收期短
- 模块式设计，清洁方便
- 页片式的铝制热交换器，表面有防粘的涂层，功率密度高。
- 对生产的中断影响小。
- 整个单元装在烘箱上，无需额外的支架。
- 可加装在大部分的烘箱上
- 可提供不同尺寸规格

Heat-exchanger module air/air	
Dimensions:	390 x 180 x 400 mm
Material:	aluminum
Heat exchanger:	cross-flow fin type
Weight:	16 kg
热交换器模块 空气/空气	
尺寸:	390 x 180 x 400 mm
材质:	铝
热交换器:	交叉页片式
重量:	16 kg

ECO-HEAT HEAT-RECOVERY AND ECO-AIR AIR PURIFICATION SYSTEM

ECO-HEAT 热回收和ECO-AIR 废气净化系统



ECO Heat

BENEFITS

- Significant energy savings depending on the process
- Significant reduction of the production cost
- Efficient solution to exhaust air problems/compliance with statutory regulations
- Lowest possible payback time (1-3 years)
- Claiming of public support programmes (depending on the country and state)
- Additional increase of productivity due to better heat transfer
- Modular construction/stepwise expansion of the systems solution
- System with extremely easy maintenance from one single source
- Can be retrofitted to existing lines made by BRÜCKNER or other suppliers

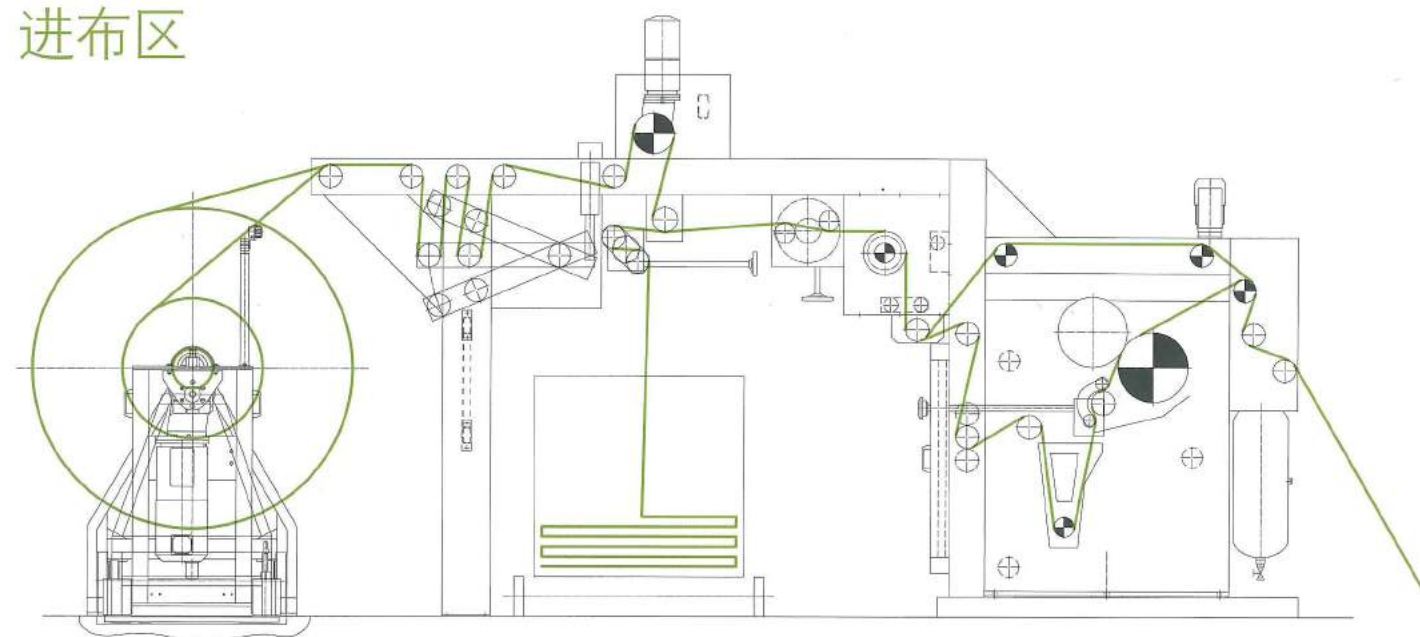
ECO Air

优点

- 视工艺而定，可节省能耗
- 减少生产成本
- 有效的废气解决方案，符合相关规定
- 投资回收期短（1-3年）
- 可申请相关补贴（视当地政策而定）
- 可增加生产效率，得益于较好的热传导。
- 模块式结构，可逐步增加系统
- 维护保养方便
- 可加装在布鲁克纳的老机器上

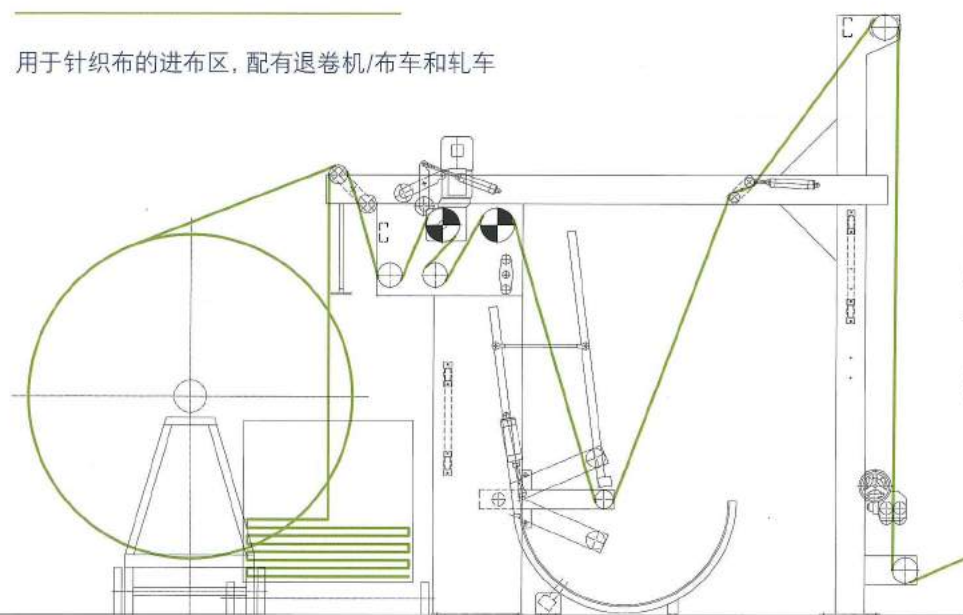
ENTRY VERSIONS

进布区



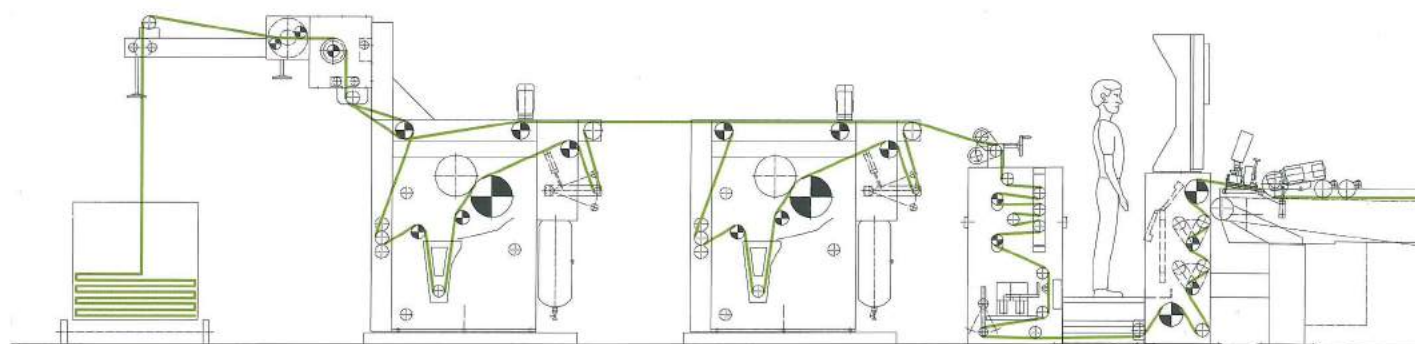
Entry version for knitted fabric with unwinder/plaiter trolley and padder

用于针织布的进布区，配有退卷机/布车和轧车



Entry version for woven fabric with unwinder/plaiter trolley and fabric scray

用于机织布的进布区，配有退卷机/布车和储布箱



Entry version for knitted fabric with plaiter trolley, two padders and straightener

用于针织布的进布区，配有布车，2个轧车，整纬器

SCRAYS AND FABRIC ACCUMULATORS

储布箱和储布架



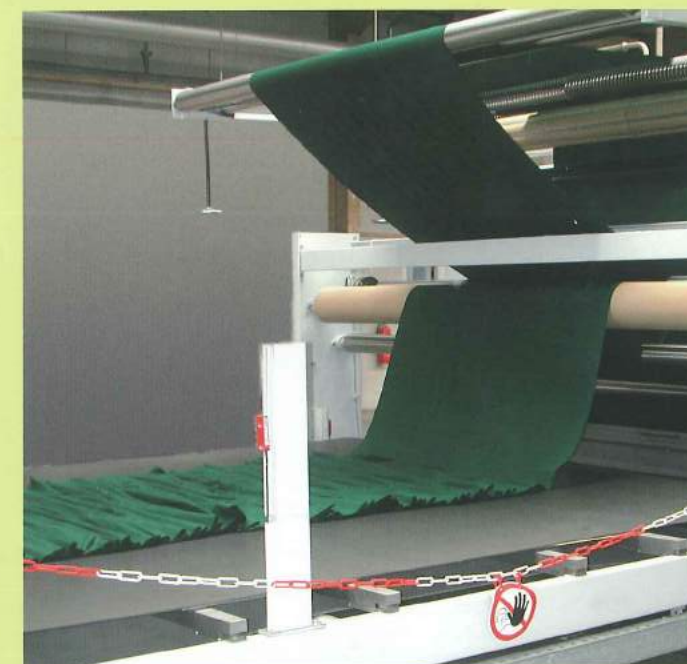
Relaxation scray for knitted fabric

用于针织布的松式储布箱



J-box fabric scray for woven fabric

用于机织布的J型储布箱



Belt-type accumulator for knitted fabric

用于针织布的导网式储布架



Roller-type fabric accumulator for woven fabric

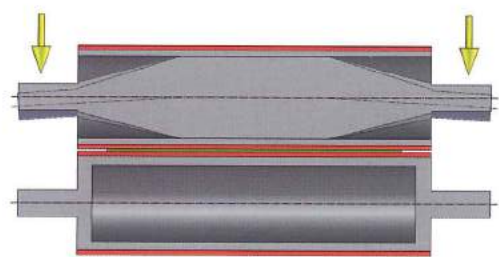
用于机织布的罗拉式储布架

THE PADDER – BENEFITS AND TECHNICAL DATA

- With centre-supported rollers it is possible to operate with variable linear pressures
- Swivel trough for easy draining (available with and without heating)
- Compensating rollers in the exit for fabric tension control
- Control elements are completely integrated
- Shorehardnesses up to 98° are available
- Maximum linear pressure: 500 N/cm

轧车—优点和技术参数

- 通过中心支撑轧辊，可以在不同的线性压力下工作
- 液槽可快速排水（液槽可加热或不加热）
- 在轧车出口处有张力辊，可控制张力
- 控制元件完全内置
- 橡胶硬度最高可达98°
- 最大线性压力：500 N/cm



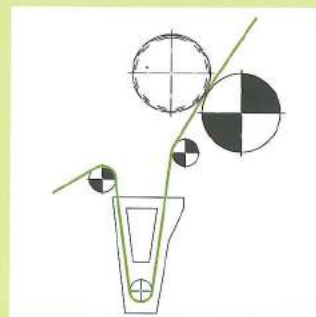
Centre-supported roller

中心支撑轧辊



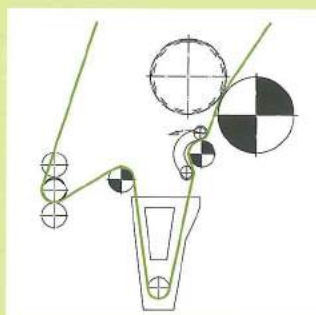
Crowned roller

冠状轧辊



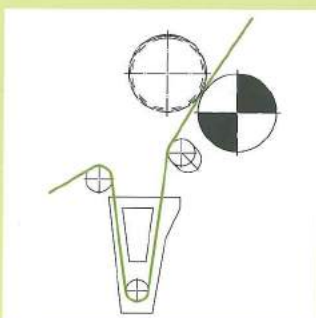
Padder for knitted fabric

用于针织布的轧车



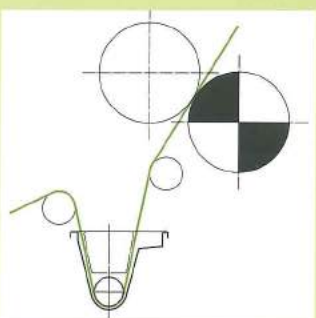
Padder for knitted fabric with adjustable spreading effect in front of the squeezing nip for very strongly rolling edges

用于卷边非常严重的针织布的轧车，在轧点前有可调节的展幅辊。



Padder for woven fabric with bow roller in front of the squeezing nip

用于机织布的轧车，在轧点前有弯辊。

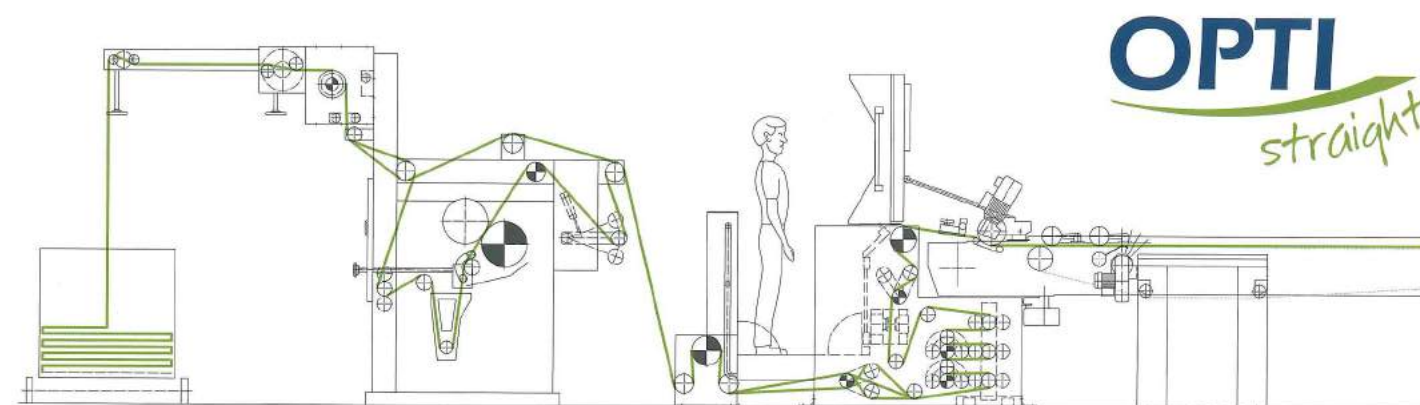


Special padder for technical textiles

用于产业用布的特殊轧车

INTEGRATED OPTI-STRAIGHT WEFT STRAIGHTENER

内置式整纬单元



Stenter entry with integrated weft straightener OPTI-STRAIGHT

定型机的入口区内置有整纬单元OPTI-STRAIGHT

BENEFITS OF THE INTEGRATED WEFT STRAIGHTENER

The new integrated weft straightener allows achieving perfect results due to the optimum roller configuration. As the fabric is being straightened immediately before pinning-on, the straightening effect is maintained and the formation of new fabric distortions will be avoided. Optimum fabric tension control is achieved by a special drive technology.

内置式整纬单元的 优点

新的内置式整纬单元可获得出色的效果，得益于优化的罗拉布局。由于织物在整纬之后就立即上针，从而可将整纬效果保持下来，并避免产生新的变形。通过特殊的传动技术，可获得出色的张力控制。



CCD industrial camera to measure the thread/mesh density

CCD工业摄像机来测量织物



View into the integrated weft straightener in the stenter entry

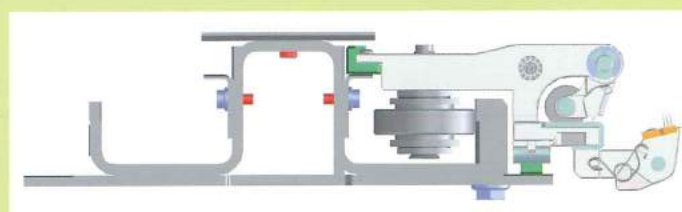
内置式整纬单元的内部结构

THE HORIZONTAL TRANSPORT CHAIN 水平循环轨道链条



The horizontal chain rail with reinforced key steel as 3D picture and as cross section.

水平循环轨道的3D示意图和横截面



Horizontal chain STAR-FORCE

水平链条 STAR-FORCE



Horizontal chain STAR-ROLL

水平链条 STAR-ROLL



Pin bar carrier and combi-clip for horizontal chain

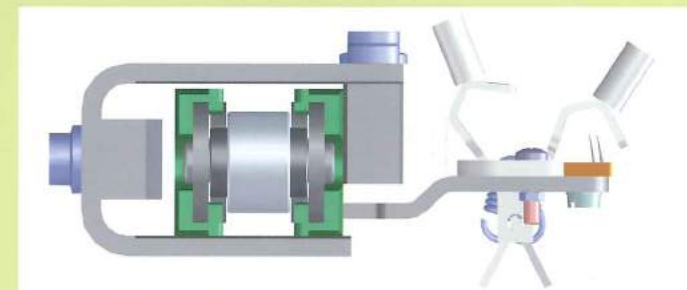
用于水平链条的针板座和布铁

THE VERTICAL TRANSPORT CHAIN 垂直循环轨道链条



The vertical chain rail with reinforced key steel as 3D picture and as cross section.

垂直循环轨道的3D示意图和横截面



It is a unique feature of all BRÜCKNER transport chains, that the gliding elements are directly fixed on the clips or pin plate holders. All gliding elements are therefore easily accessible from outside of the dryer for maintenance. No disassembly of the chain rail is required. In addition the gliding elements are made of a compound material which needs no lubrication and is thus almost maintenance-free. All pin bar carriers are generally provided with depinning protection clamps.

布鲁克纳轨道链条的一个重要特点是：滑块直接安装在针板座上。因而可在烘箱的外面来更换滑块，且无需拆除轨道。另外，滑块是由复合材料制成，它不需要润滑，因而几乎免维护。通常，针板都配有防脱针铁。



Vertical chain STAR-DUR nonlub

垂直链条 STAR-DUR

THE SELVEDGE CUTTER

切边装置

In the finishing of knitted fabric the edges are cut until the gumming trail to prevent rolling edges particularly in case of single jersey. This is important for the following finishing steps until confection. When finishing woven fabric the edges are cut to get an exact final fabric width and clean edges after the stentering process.

We offer two different types of edge cutters: knife type cutting and scissor type cutting. The scissor-type edge cutter is suitable for most fabric qualities. In case of very light materials or articles with unstable surface the version with knife-type cutting is preferable.

针织布，特别是单面汗布在后整理时，通常需要切边，以防止卷边。这对于后续的工序很重要。当机织布在后整理时，有时也会切边，这样可获得干净的布边和所需的最终幅宽。我们可提供2种不同的切边装置：圆刀式切边和剪刀式切边。剪刀式切边可适用于大部分的织物。如果是非常轻薄的织物，且结构不是很稳定的话，圆刀式切边更适合。



Selvedge cutter of the scissor type

剪刀式切边装置

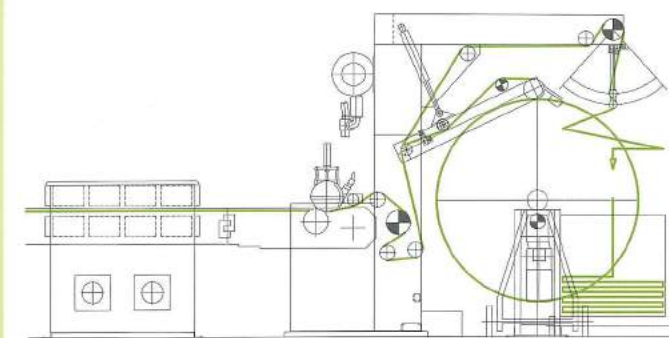


Selvedge cutter of the knife type

圆刀式切边装置

EXIT VERSIONS

出布区



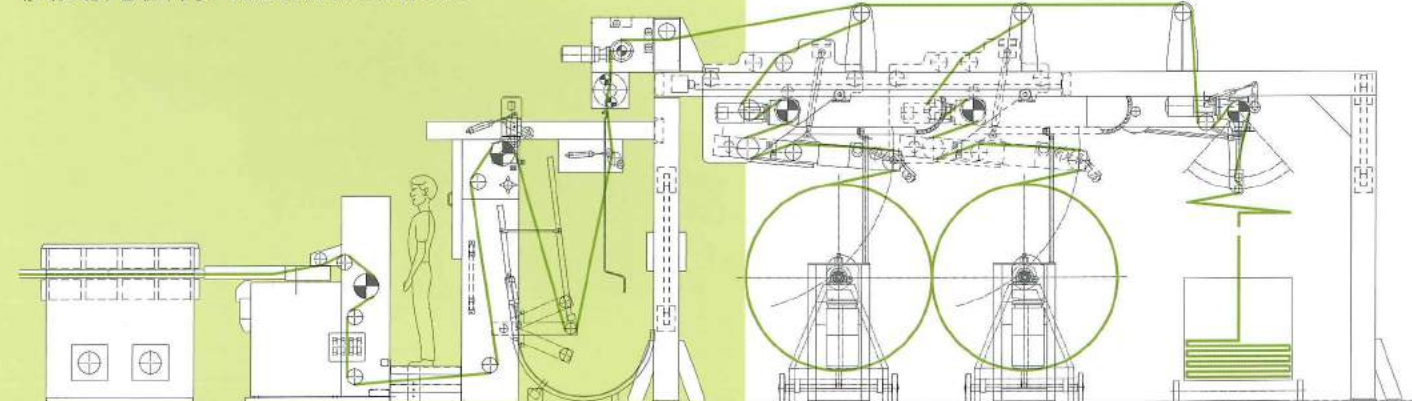
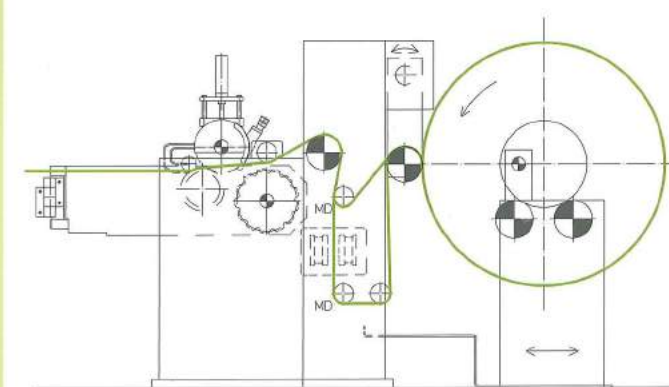
Standard exit with large-diameter batcher and plaiter

标准的大直径打卷机和落布架



Movable batcher on a mobile platform for the batching of delicate woven and knitted fabric

移动式打卷机，用于敏感的机织布和针织布

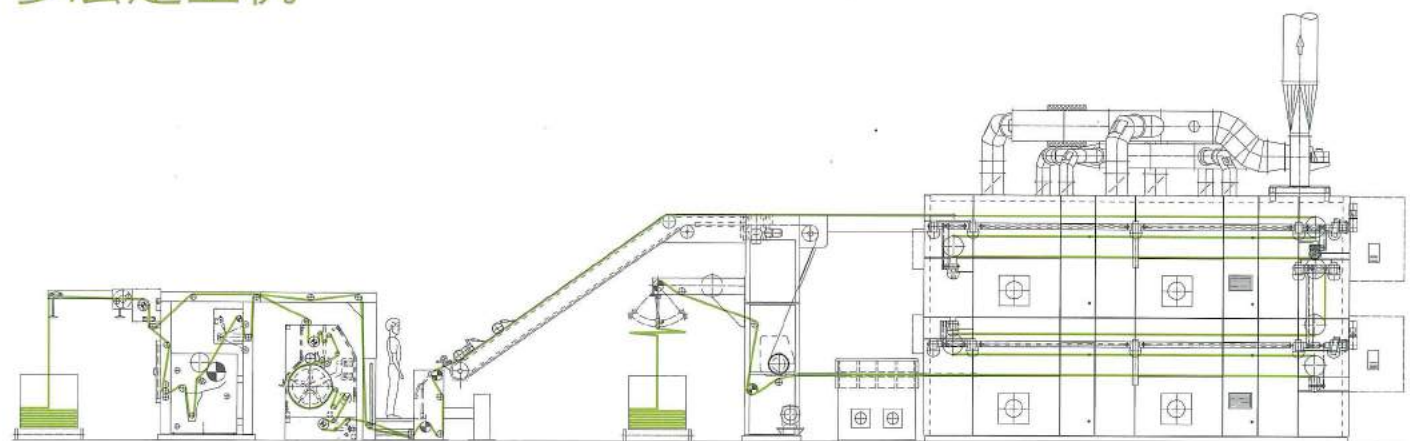


Stenter with 2-position batcher and plaiter for woven fabric or coated fabric

双位打卷机和落布架，用于机织布或涂层布

THE VNE MULTI-LAYER STENTER

多层定型机



VNE 6 (3+3) multi-layer stenter for wool finishing

用于毛纺织物的多层定型机 (6层, 3+3)

Multi-layer stenters are mostly used in the wool industry or where not much space is available. Generally only one operator is required since the entry and the exit are on the same side of the machine. Due to the six fabric passages arranged one above the other this machine type offers the highest possible power density per required floor space which means a long path with air circulation on the narrowest possible space.

多层定型机通常用于毛纺织物或者厂房空间受限的情况。通常只需一名操作工即可, 因为机器的入口和出口都在同一侧。由于有6层织物通道, 机器的单位占地面积的热功率很高, 从而即使在很小的占地面积下, 也可获得很高的产量。

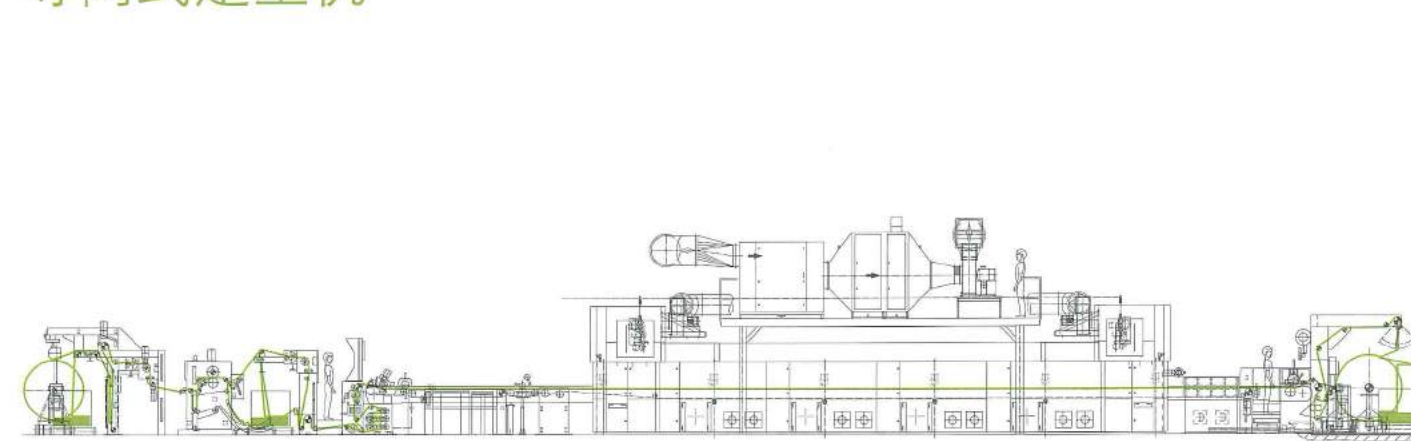


VNE 6 (3+3) multi-layer stenter for wool finishing

用于毛纺织物的VNE 6 (3+3) 多层定型机

THE VNB CONVEYOR BELT STENTER

导网式定型机



VNB conveyor belt stenter for the finishing of delicate knitted fabric

用于敏感的针织布的VNB导网式定型机

The conveyor belt stenter is particularly suited for fabric which is susceptible for distortion since the belt supports the fabric additionally and allows thus to transport the fabric with low tension and without sagging. Different speeds of belt and chain allow to straighten bow distortions. An air-through zone can be installed in front of the first dryer compartment in order to increase the water evaporation. Without chain, the machine can be also used as relaxation dryer.

导网式定型机特别适用于容易变形的织物。导网可以完全托住织物, 无下垂, 并且传送张力小。如果导网的速度与轨道链条的速度不一致, 还能帮助改善纬弧。在第1节烘箱的前面, 还可以增加一个透风区, 以增加水分蒸发能力。如果织物不上针的话, 这台机器还可以被用作松式烘干机。

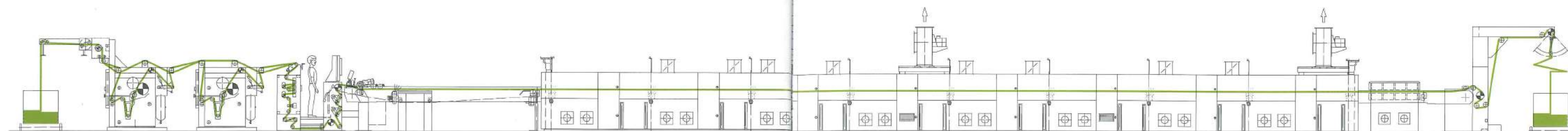


VNB conveyor belt stenter for the finishing of delicate knitted fabric

用于敏感针织布的VNB导网式定型机

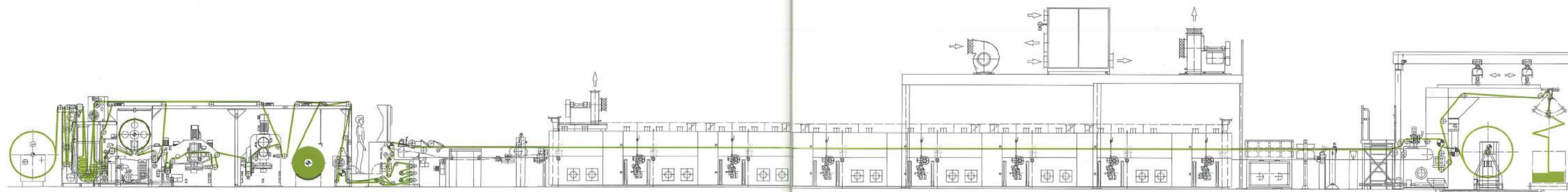
EXAMPLES OF MACHINE LAYOUTS FOR KNITTED FABRIC

用于针织布的定型机案例



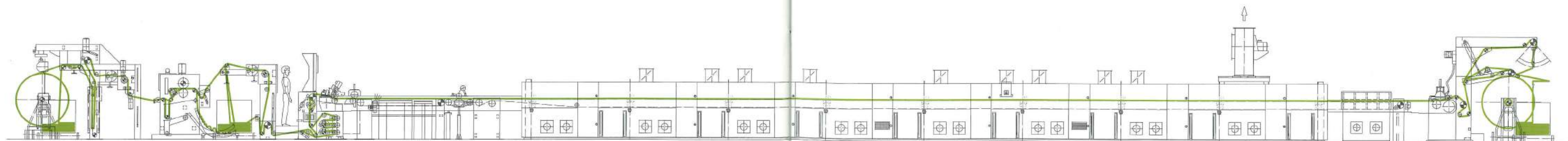
Standard finishing line for knitted fabric

用于针织布的普通定型机



Finishing line for elastic knitted fabric

用于经编弹力布的定型机

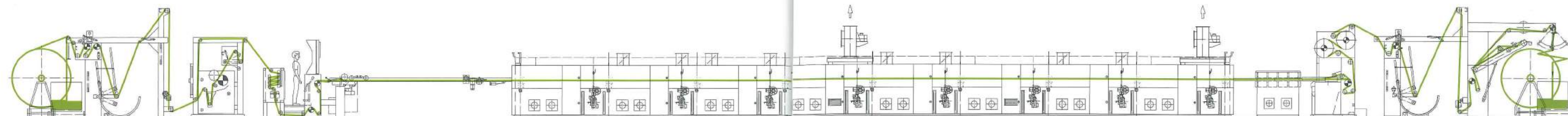


Finishing line for tension-sensitive fabric

用于张力敏感织物的定型机

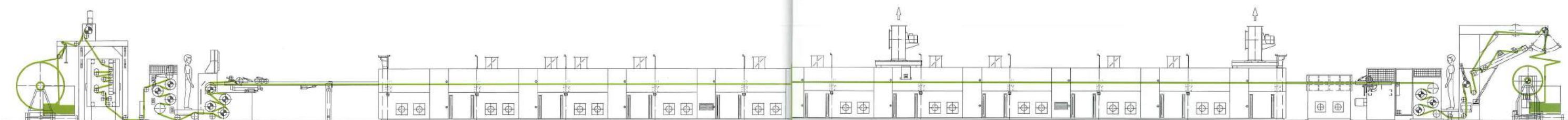
EXAMPLES OF MACHINE LAYOUTS FOR WOVEN FABRIC

用于机织布的定型机案例



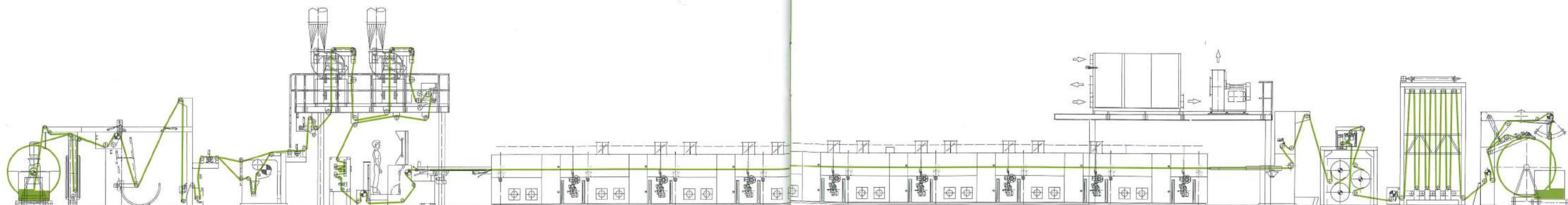
Standard finishing line for woven fabric

用于机织布的普通定型机



Finishing line for stretching and finishing of filter materials

用于过滤布的拉伸定型机

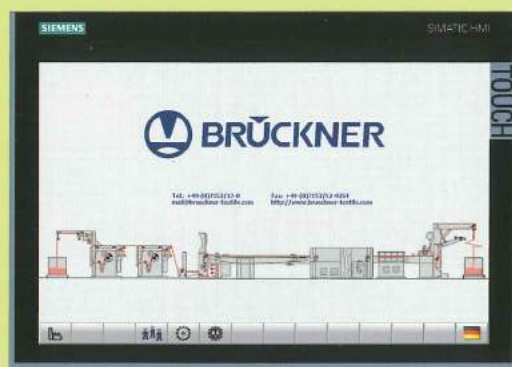


Finishing line for pigment dyeing and resin finishing of protective work clothing

用于防护工作服的生产线, 可以进行涂料染色和树脂整理

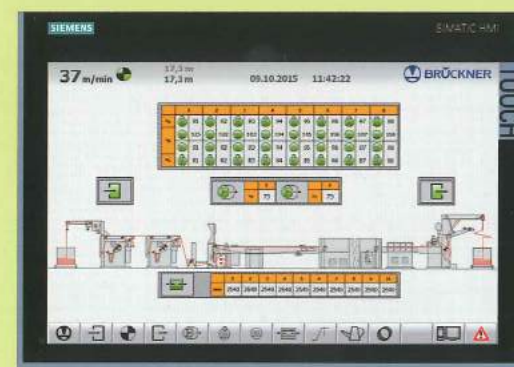
BRÜCKNER OPERATING AND PROCESS VISUALIZATION SYSTEM

布鲁克纳的工艺操作和控制系统



Start-up screen

开始界面



Overview of the machine with temperature settings, air circulation and width adjustment

机器总览, 有温度设定, 循环风机和门幅设定



Details of the dryer with temperature profile as bar chart

温度设定的界面



Exit area of the dryer with batcher

出布区的打卷机

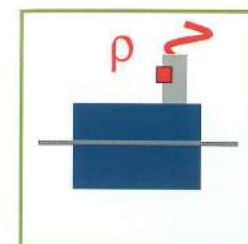
The BRÜCKNER machine is characterized by a very user-friendly operating interface. All data which are relevant for the production are shown in a clear arrangement on the screen. The machine parameters can be selected and changed via touch screen. The operation of the machine is made intuitively and can be easily learned since only illustrations of the machine and icons are used. The operator can click from the surface deeper and deeper into the machine details.

布鲁克纳的机器配有一个非常便利的操作界面。所有和生产相关的参数都可在屏幕上显示。可通过触摸屏来设定和修改工艺参数。机器操作非常直观, 且容易上手, 因为只需使用图像和图标。

PROCESS AUTOMATION MODULES

工艺自动化模块

OPTI-HUMIDITY



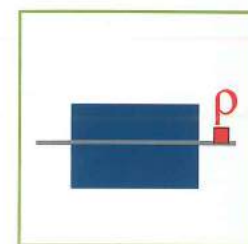
Exhaust air moisture control

- Control of the exhaust air flow via moisture measurement in the dryer
- Optimum energy exploitation with maximum evaporation capacity

废气湿度控制

- 通过检测废气湿度来控制废气量
- 在获得最大蒸发量的同时, 保持最佳的能耗

OPTI-MOIST



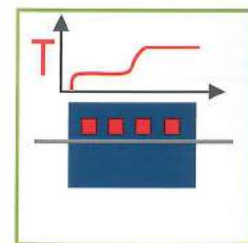
Residual moisture control

- Control of the production speed via fabric moisture measurement directly at the stenter exit
- Maximum production with optimum fabric quality and minimum energy consumption

剩余含水量控制

- 通过在机器出口处检测布面的含水量, 来控制车速。
- 在获得最高产量的同时, 保持最佳的布面质量和最低的能耗。

OPTI-HEAT



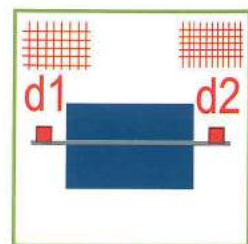
Heat-setting automation

- Control of the production speed by measuring the heat-setting temperature while meeting the heat-setting times
- Maximum energy consumption with optimum fabric quality

热定型控制

- 通过测量布面温度及计算实际定型时间, 来控制车速。
- 在获得最佳的布面质量的同时, 保持最佳的能耗。

OPTI-STRAIGHT CONTROL



Automatic shrinkage control

- Control of the fabric overfeed in the stenter entry by measuring the mesh density or the weight/m²
- Optimum and uniform residual shrinkage

自动缩水率控制

- 通过检测织物的密度或克重, 来控制进布超喂量。
- 获得最佳和均匀的剩余缩水率

BRÜCKNER Textile Technologies GmbH & Co. KG
Benzstraße 8–10, D-71229 Leonberg
Postfach 1154, D-71201 Leonberg

电话: +49 7152 12-0
传真: +49 7152 12-9254

mail@brueckner-textile.com
www.brueckner-textile.com

BLUECOMPETENCE

Alliance Member

Partner of the Engineering Industry
Sustainability Initiative

We focus on the development of innovative and energy-efficient machinery as well as intelligent and environmentally compatible processes. Since 2011 we are therefore engaged in the VDMA (German Engineering Federation) sustainability initiative Blue Competence.

我们致力于发展创新的节能的机器, 以及智能的且符合环保要求的工艺。2011年我们加入VDMA (德国工程机械联合会) 的可持续发展计划。



The details given in this leaflet cannot be considered as binding. We reserve the right to modify our designs and scope of delivery.
本资料上的内容不具有约束力。我们保留更改设计和供货范围的权利。



POWER-FRAME

Stenter for textile and technical applications

用于普通纺织品和
产业用布的定型机



FASCINATING TEXTILE MACHINERY

www.brueckner-textile.com