



YURI ROLL
technical innovation

Embossing Technology

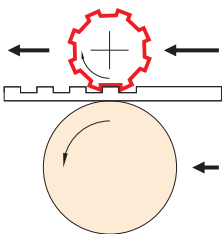
压花技术

Embossing refers to pressing an embossing roll having an uneven surface onto a product to add a design and improve functionality.

压花加工，是透过表面有著凹凸的压花轮对产品进行加压，赋予设计美感并提升其机能性。

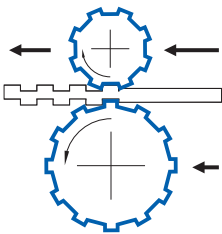
Embossing Process Methods 压花加工法

One-side embossing 单面压花

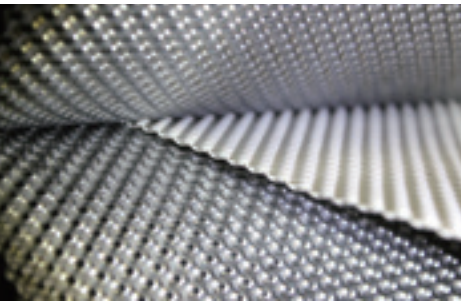


Embossing/rubber 压花辊 / 橡胶

Both-side embossing 双面压花

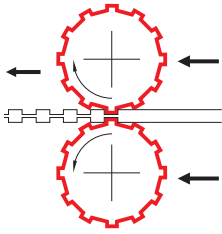


Embossing/paper 压花辊 / 纸



Embossing/embossing (steel match unevenness) 压花辊 / 压花辊 (Steel match 凹凸)

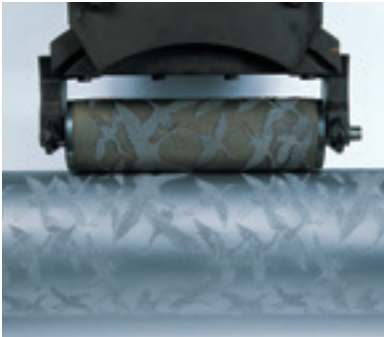
Others 其他



Embossing/embossing (Tip to tip unevenness)

压花辊 / 压花辊 (Tip to tip 凸凸)

Embossing Roll Engraving Methods 压花辊雕刻方法



Mill engraving

轧花彫刻

A method of press rolling with a mother roll called a mill.

轧花雕刻以母滚筒加压滚动进行雕刻的方式。



Mechanical engraving

机械彫刻

A method of cutting with a 3 – 5 axes CNC processing machine.

使用3~5轴CNC加工机进行切割的方法。



Etching engraving

蚀刻法彫刻

A method of chemically corroding the roll surface.

是一种化学性腐蚀辊筒表面的方法。

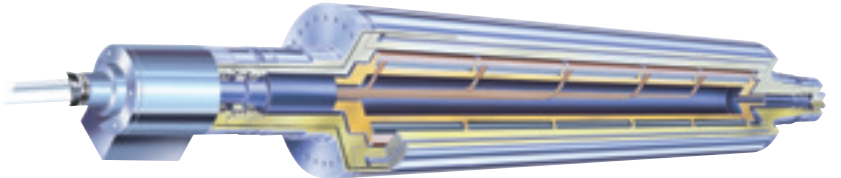
Engraving using a combination of the above methods is possible. 每一个雕刻都可以组合。

Roll Heating Methods 辊筒的加热方式

Inductive heating method 诱导发热式

Usage temperature range
40 – 280°C (standard specification)
280 - 400°C (high temperature specification)

使用温度范围
40~280°C (标准规格)
280~400°C (高温规格)

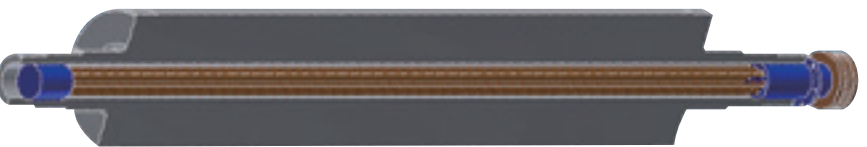


The roll shell is joule heated by the IH coil inside the roll
通过辊筒内部的IH线圈，使辊筒外壳产生焦耳热能。

Electric heating method 电气加热式

Usage temperature range
60 - 200°C

使用温度范围
60~200°C

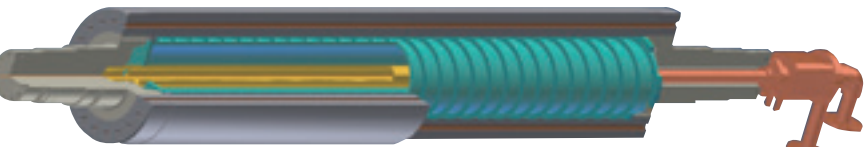


The roll shell is heated by heating the resistance type heater inside the roll
使辊筒内部的电阻加热器发热，并加热辊筒外壳。

Heat circulation method 热媒循环式

Usage temperature range
Normal temperature - 90°C (heat medium: warm water)
60-250°C (heat medium: oil)

使用温度范围
常温~90°C (热媒介: 温水)
60~250°C (热媒介: 油)



The roll shell is heated by circulating the heating medium inside the roll
使辊筒内部循环热媒介，以加热辊筒外壳。

Steam heating method 蒸汽加热式

Usage temperature range
120-150°C
(In case of approx. 0.7MPa primary pressure)

使用温度范围
120~150°C
(当一次压力约为0.7MPa时)



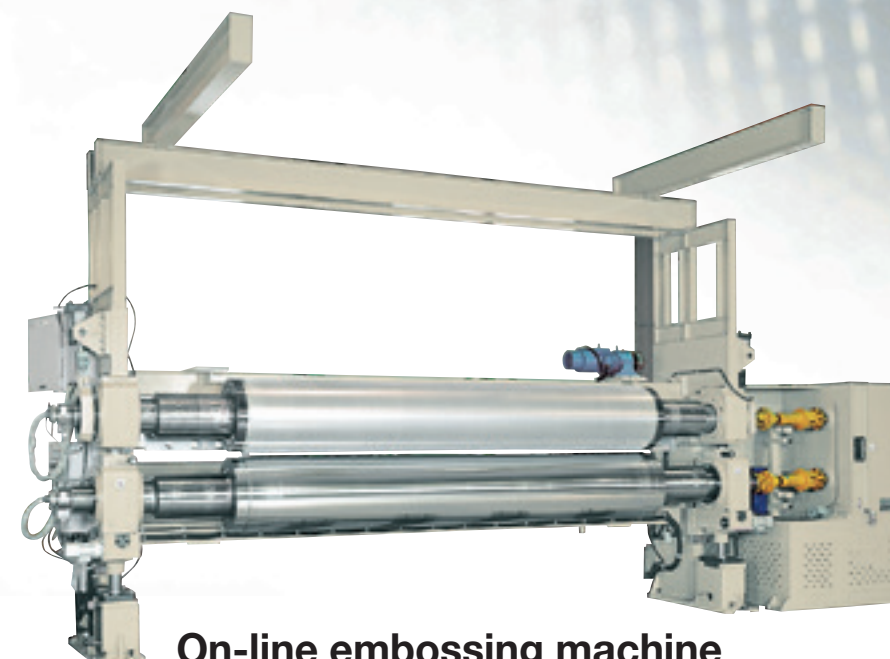
The roll shell is heated by filling water steam inside the roll
用水蒸汽填满辊筒内部，借以加热辊筒外壳。

Various Embossing Machine Types

各种压花机

These machines are used to upgrade the design and texture, and for processes such as point bonding, bulking, slip prevention, improvement of separation, and hole opening. They can be used with paper, fiber, non-woven fabric, resin, film, aluminum foil, and steel sheets, etc.

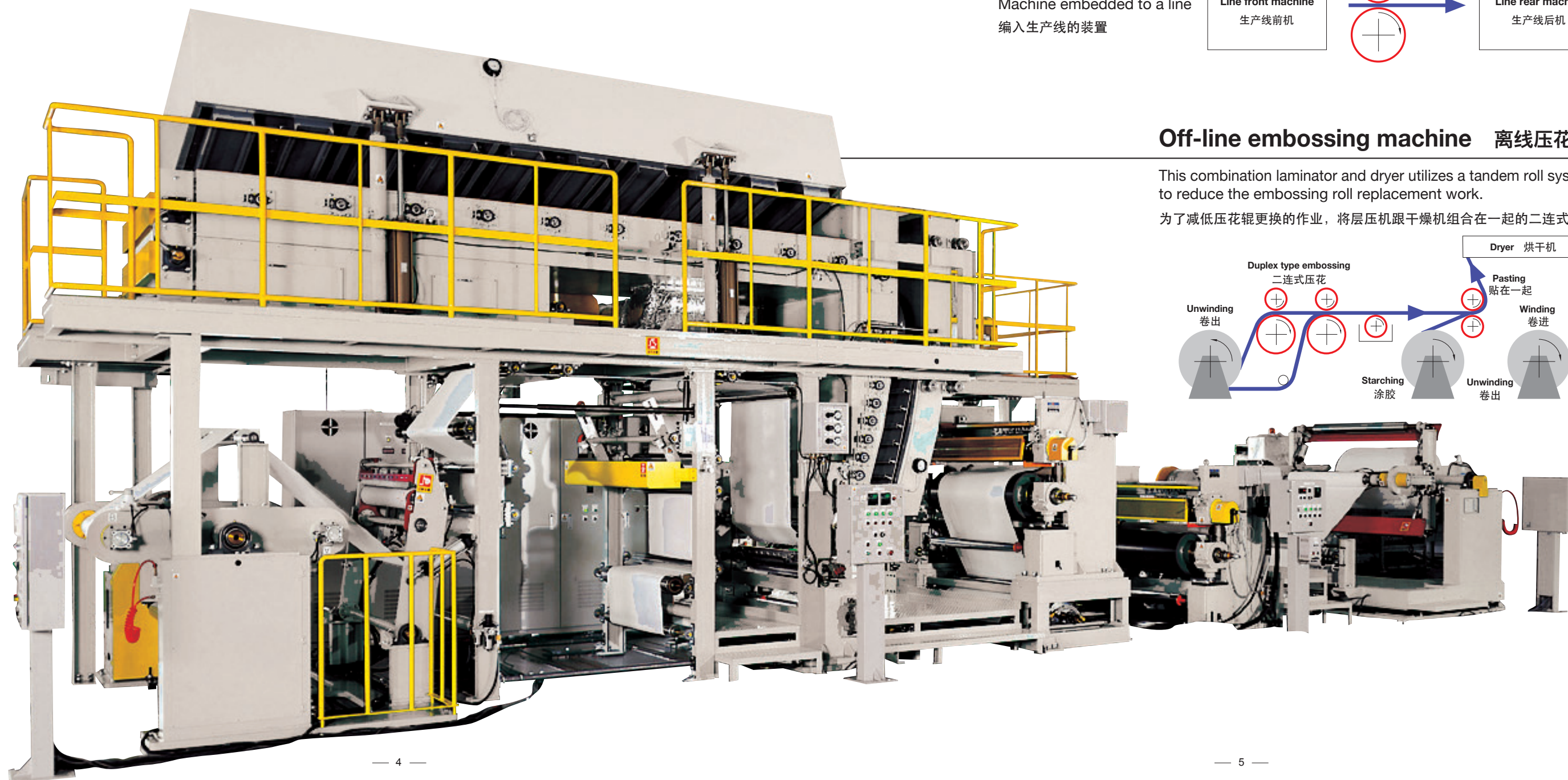
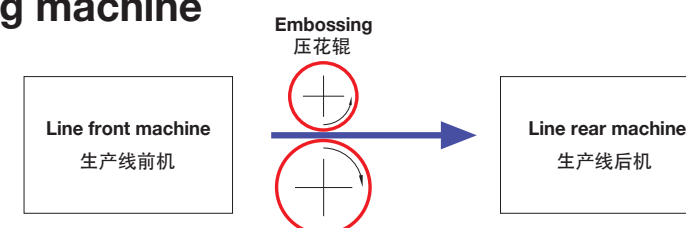
是一种可提升设计感与质感，并进行点黏合、膨化、防滑、提高剥离性、钻孔等加工的机器。
可用于纸张、纤维、无纺布、树脂、胶膜、铝箔、钢板等。



On-line embossing machine

线上压花机

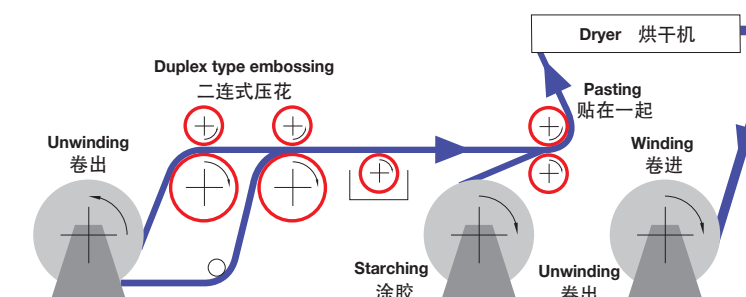
Machine embedded to a line
编入生产线的装置



Off-line embossing machine 离线压花机

This combination laminator and dryer utilizes a tandem roll system to reduce the embossing roll replacement work.

为了减低压花辊更换的作业，将层压机跟干燥机组合在一起的二连式设备。



Calendering Technology

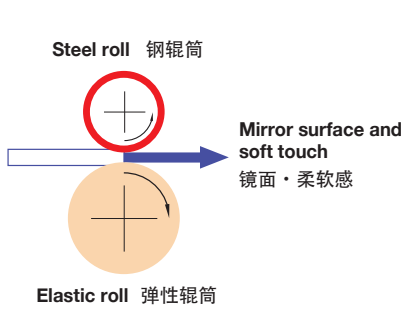
压延技术

Calendering refers to passing a product through flat rolls to add luster, improve smoothness, and adjust the thickness.

压延加工是指制品通过平滑的辊筒时，赋予其光泽并改其善平滑度，另外也能调整厚度。

Calendering Methods 压延加工法

Steel/Elastic roll 钢 / 弹性辊筒

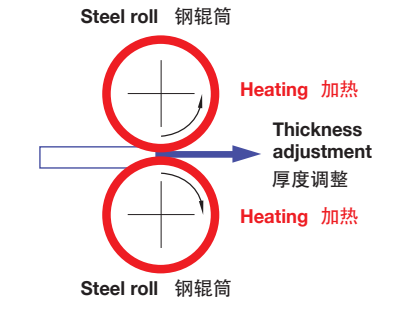


Mirror surface and soft touch
镜面·柔软感

A combination of steel roll and elastic roll made of paper, cotton, or rubber. Use for adding luster and smoothing paper and fabrics.

由金属制的钢辊筒和弹性辊筒(如纸、棉、橡胶等)所组成的。用于抛光，平滑纸张和纤维。

Steel/Steel 钢辊筒 / 钢辊筒

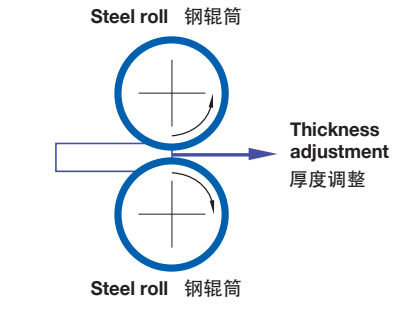


Thickness adjustment
厚度调整

A combination of steel rolls. Use for processes requiring both sides to be heated, such as for unwoven material or thick compound material.

兩個鋼辊筒的組合。用于加熱到正面和背面的不織布或較厚的複合素材。

High pressure calender 高压压延机



Thickness adjustment
厚度调整

A high-pressure calender with 1000N/mm linear pressure is used to compress and roll products such as metal mesh or batteries having a high thickness precision and density.

金屬網或電池等需要高精確度的厚度、密度等產品的壓縮、壓延時，使用線壓1000N/mm的高壓壓延機。

Various Elastic Rolls 各种弹性辊筒



Woolen paper roll 羊毛纸辊筒

Elastic roll with woolen paper on working surface.

运作表面上使用羊毛纸的辊筒。



Cotton roll 棉花辊筒

Elastic roll with cotton sheet on working surface.

运作表面上使用棉花的辊筒。

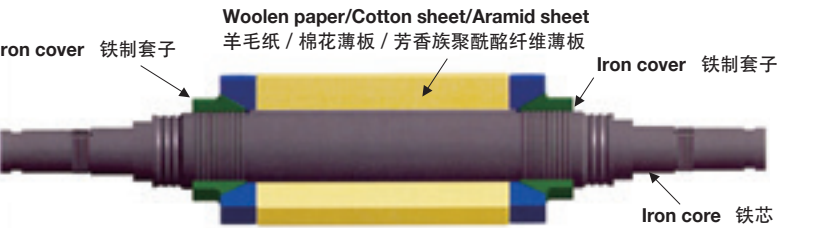


Aramid roll 芳香族聚酰胺纤维辊筒

Elastic roll with aramid sheet on working surface.

运作表面上使用芳香族聚酰胺纤维的辊筒。

Structure of Elastic Roll 弹性辊筒的构造



Woolen paper/Cotton sheet/Aramid sheet
羊毛纸 / 棉花薄片 / 芳香族聚酰胺纤维薄片

Iron cover 铁制套子

Iron core 铁芯

Base paper and base cotton are formed into a circular sheet, attached to an iron core, pressed, and then cut and polished to form the working surface.

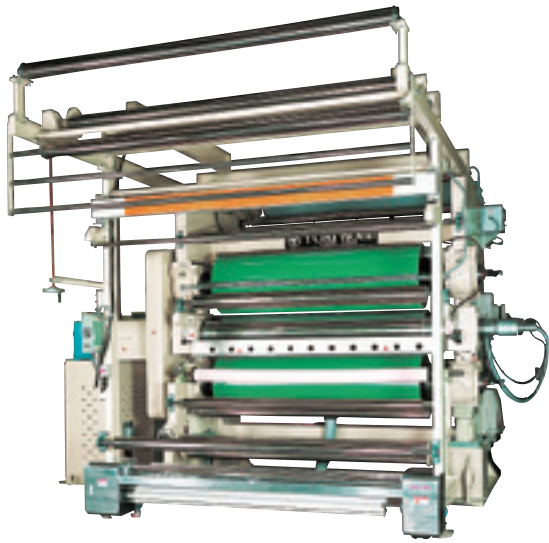
將原紙，原棉制成圓形薄片狀，將鐵芯裝入填壓后，通過切割研磨后制成運作表面。

Various Calendering Machine Types

各种压延机

These machines are used to add luster to the product surface, smoothen and compress any unevenness, and adjust the thickness.

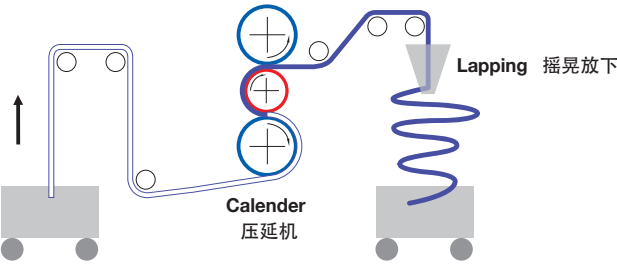
將制品表面拋光，使不規則面平滑，壓縮及調整厚度的機器。



Hydraulic blast calendering machine for fabrics
纺织物用油压式塑料压延机

Calendar has the resin rolls (blast rolls) on the top and bottom level. Use to add luster to synthetic fabrics such as polyester and to adjust ventilation level.

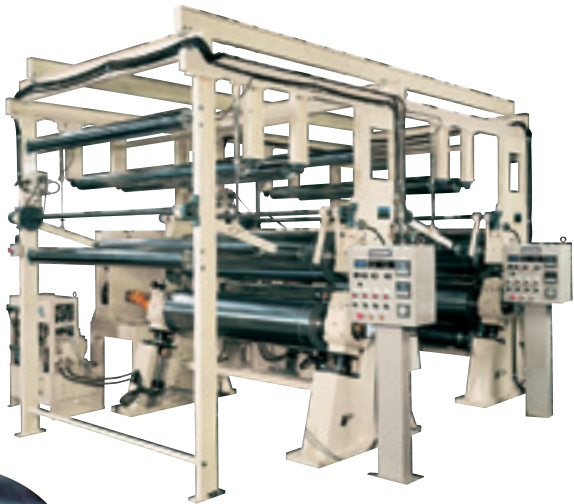
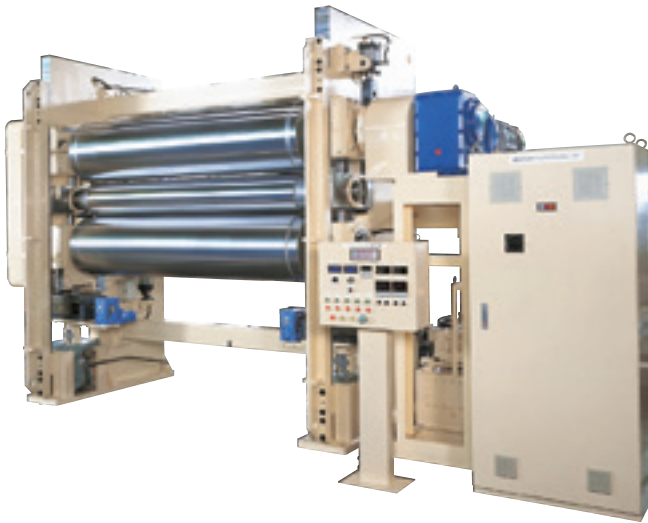
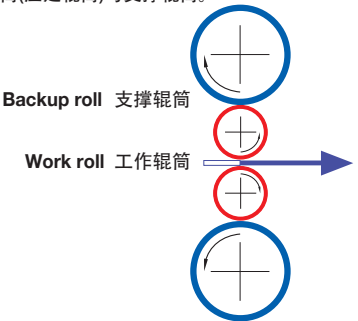
在上下段使用树脂辊筒（塑料辊筒）的压延机。用于聚酯等合成纤维的抛光和调节透气度。



Multi-level calendering machine (3 to 7 rolls)
多段式 (3 ~ 7 根辊筒) 压延机

Calendar configured of three or more rolls. The number of rolls and configuration are selected according to the purpose of the process. For example, a backup roll in addition to a work roll (calender roll) may be installed to achieve both a high compression/rolling effect and high precision.

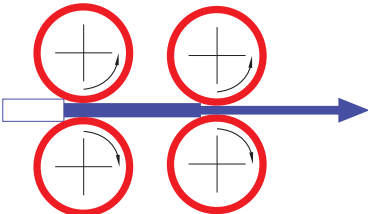
三根含以上的辊筒所组成的压延机。根据加工目的来选择辊筒的数量与配置。例如，同时需求高强度压缩与高精密度效果的情况，则可以分别设置工作辊筒(压延辊筒)与支撑辊筒。



Multiple roll type calendering machine
多連式压延机

A multiple-roll type calender is used when the base material requires gradual rolling/pressing.

根据不同的基材，若需要缓慢的压延和压缩的话，可将压延机一部分设为多连式。



Laminating Technology 层压技术

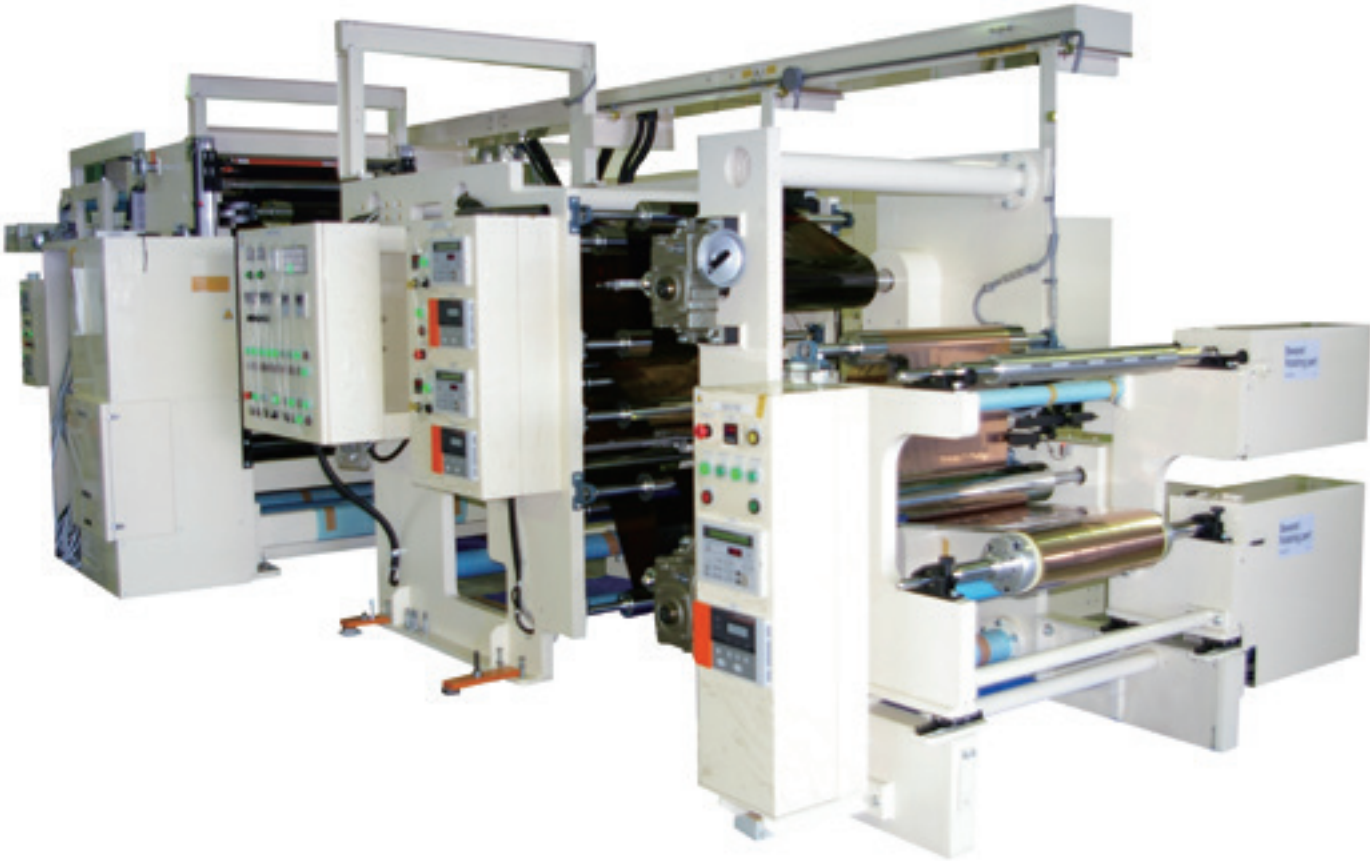
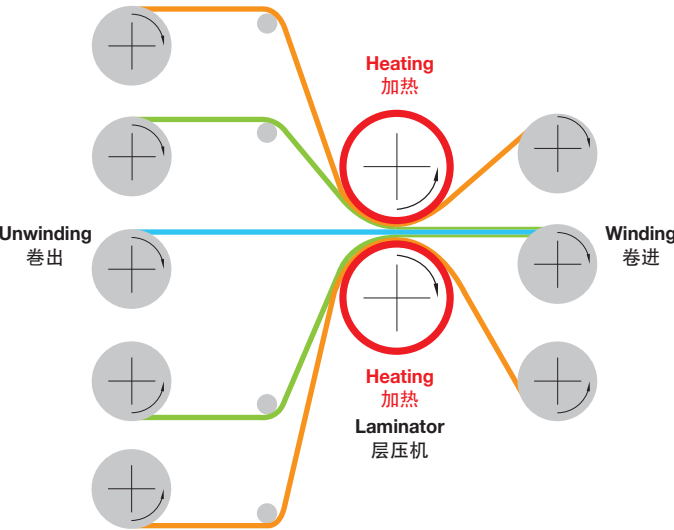
Laminating refers to creating highly functional products by sticking multiple base materials together.
层压加工，是透过结合多种材料以获得高机能性的制品。

It may be necessary to install the machine in a clean room depending on the product application, such as food packaging or electronic components.
根据食品包装材料和电子零件等产品的不同用途，必须将机器安装在无尘室内。

Thermal lamination 热层压

Thermal lamination is used to stick 2 to 5 layers of base material together by using a heat plastic base material. Plastic base materials such as film and nonwoven fabric are used like a binder to join non-thermal plastic base materials such as paper and metal film. The need for preheating and the processing temperature are determined according to the properties of the base material.

使用2~5层的热可塑性基材进行黏合。将胶膜与不织布等热可塑性基材当作黏合剂使用，并将纸与金属箔等非热可塑性基材黏合。根据基材的材质调整不同的加工温度与是否进行预先加热。



High-temperature laminator for flexible print circuit 柔性印刷电路板用高温层压机

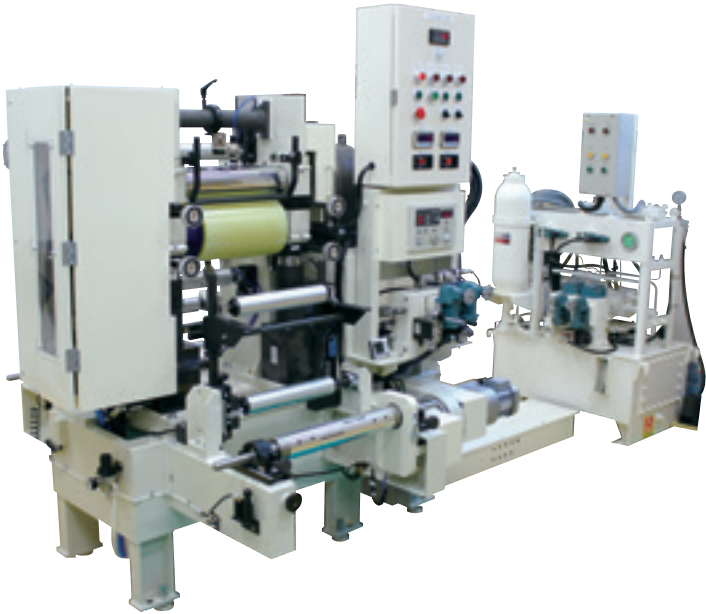
This laminator is used to produce laminated sheets for flexible print circuits, which are essential for making compact cell phones and mobile terminals and improving shock resistance. The high temperature type (400°C Max) is used for the laminating roll.

用于制作柔性印刷电路板层压板，在结合行动电话与行动终端上以及提升耐撞性上是不可或缺的设备。使用高温型（最高400℃）层压辊。

Other Technologies 其他的技术

Various test machines 各种试验机

Various test machines that prioritize the confidentiality of development and enable timely prototypes are available.
重视开发产品的机密性，为了能够适时的测试作业，制作了许多试验机。



Yuri-Resillio mangle 由利雷希利歐輥筒軋光机

High performance dehydrator for fabric and non-woven fabric. "Resillio roll" comprised of non-woven fabric laminated on the roll working surface is used. Unlike rubber rolls, the sponge effect dehydrates with high efficiency thereby reducing the drying load, reducing the drying heat quantity, and speeding up the drying line.

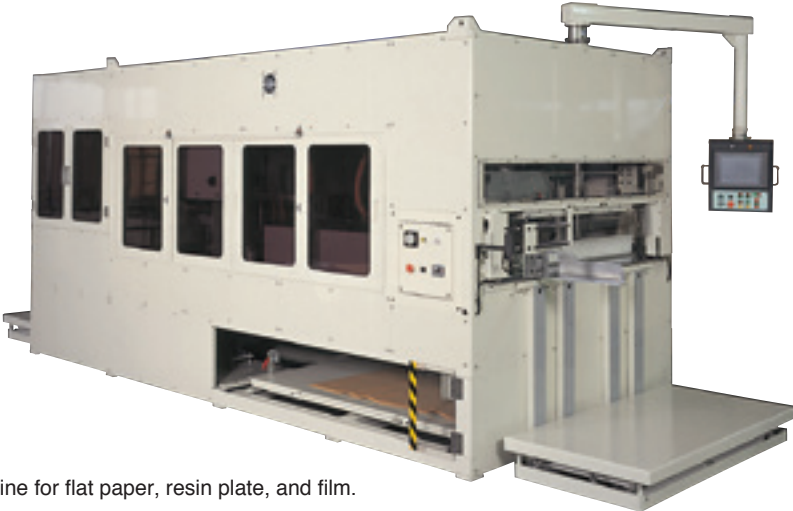
纤维和不织布专用的高性能脱水机。在棍筒侧面使用不织布层层堆叠的「雷希利欧輥筒」。与橡胶輥筒不同的是，具有海绵的效果，能高效率的脱水。因此能有助减少干燥时的负荷与热量，并提升干燥生产线的速度。

YURIPAO (Laminate automatic wrapping machine) 由利帕欧 (FLAT 自动包装机)

Compact and high performance automatic wrapping machine for flat paper, resin plate, and film.
用于组装普通纸、树脂板、胶膜的高性能自动包装机。

- Support other type and small lot
- 对应其他类型・小批量
- Use flat wrapping paper
- 使用普通纸(包装纸)

- Touch panel type operation panel
- 触控面板式控制盘
- Standard model: 1200 x 900 to 460 x 394mm (Two-line stacking device is built-in)
- 标准型1200×900~460×394mm (附双排装置)



Test Development Room

实验开发室

All possibilities start here.

所有可能性从这里开始。

Our expert staff with abundant know-how and six purpose-specific test machines provide consistent help from product trials to setting of processing conditions.

设置6台测试机，拥有丰富技术知识的专业人员常驻，目的是为了从产品的试作到加工条件达成为止能一贯地完成作业。



Electric heating type Embossing machine

Can be used for embossed calendering, lamination, and mangling of various base materials such as paper, fabric, non-woven fabric, film, and metal. Prototypes can be made with more than 200 roll combinations. Since there are two test machines with identical specifications, the roll replacing time can be reduced, and also tests can be performed efficiently with efficient test with two pattern prototypes.

电器加热式压花机

压花压延，层压和研光加工可用于任何基材如纸张、纤维、不织布、胶膜、金属箔等。可以将200多种不同的辊筒组合试作。由于有两台相同规格的试验机，所以可节约轧辊的更换时间，并且可高效率的同时进行两种模式的试验。

Machine model type 机械型式	Two-roll type: Upper level embossing roll Ø 100 to 150mm Lower level (paper, rubber, steel, etc.) Ø 150mm to 200mm 2根辊筒式: 上段压花辊 Ø100~150mm 下段辊筒 (纸、橡胶、钢等) Ø150~200mm
Machine working width 机械工作幅度	300mm 300mm
Machine speed 机械速度	4 to 40m/min. 4 ~ 40m/ 分
Pressure condition 压力条件	10 to 50kN (Linear pressure 33 to 167N/mm) 10 ~ 50kN (线性压力 33 ~ 167N/mm)
Temperature condition 温度条件	200°C at maximum 最高200°C
Unwinding/winding 卷出・卷进	Unwinding one location, winding one location 一个卷出装置、一个卷进装置



Inductive heating type High-temperature, high-speed calender (Laminator)

Compatible with wide range of calendering (thickness adjustment, and lustering) and thermal lamination (sticking materials together) of various base materials such as paper, non-woven fabric, film, and metal foil. The maximum processing temperature of 400°C also supports special materials such as fluororesin and polyimide.

The maximum machine speed is 100m/min., so prototypes can be sampled at a high speed. There are five unwinding (feeding) locations and three winding locations; therefore, thermal lamination of up to five layers can be performed continuously.

誘導加熱式高温高速圧延機(層圧機)

任何基材如纸、不织布、胶膜、金属箔等都可被如压延（厚度调整・抛光等）和热层压（粘贴）广泛的使用。由于最高可加工至400℃，因此也可对应氟树脂和聚酰亚胺等特殊基材。

另外，由于机器速度最高为100米/分钟，因此可以高速进行样品原型制作。由于有5个卷出（连续送出）和3个卷进，因此可连续执行多达5层的热层压。

Machine model type 机械型式	3-roll type: Upper level heating rubber roll Ø 200mm Middle and bottom level steel roll Ø 300mm 3根辊筒式: 上段加熱橡胶辊筒Ø200mm 中段・下段钢辊筒Ø300mm
Machine working width 机械工作幅度	500mm (Heat effective length 350mm) 500mm (热有效长 350 mm)
Machine speed 机械速度	0.5 to 100m/min. 0.5 ~ 100m/ 分
Pressure condition 压力条件	10 to 200kN (Linear pressure 20 to 400N/mm) 10 ~ 200kN (线性压力 20 ~ 400N/mm)
Temperature condition 温度条件	Upper level heat rubber roll 100 to 180°C Middle and bottom level steel roll 280 to 400°C 上段加熱橡胶辊筒100~180°C 中段・下段钢辊筒280~400°C
Unwinding/winding 卷出・卷进	Unwinding 5 locations, winding 3 locations 五个卷出装置、三个卷进装置



High precision/Super pressure Hot roll press machine

Pressure rolling and compression with a super-high pressure of up to 1000kN are possible. Suitable for pressure rolling, compressing, and adjusting the thickness of metal mesh and electrodes for batteries and capacitors, etc.

高精度・超高压 热辊压机

可以在高达1000kN的超高压下压延和压缩。适用于调整电池和电容器等的电极，金属制品等的压延，压缩和厚度。

Machine model type 机械型式	Two-roll type: Upper/lower level steel roll Ø400mm 2根辊筒式: 上・下段钢轧辊 Ø400mm
Machine working width 机械工作幅度	550mm 550mm
Machine speed 机械速度	1 to 100m/min. 1 ~ 100m/ 分
Pressure condition 压力条件	1000kN at maximum (linear pressure 1818N/mm) 最高 1000kN (线性压力 1818N/mm)
Temperature condition 温度条件	Upper and lower steel roll 200°C at maximum 上・下段钢轧辊 最高200°C
Unwinding/winding 卷出・卷进	Unwinding one location, winding one location 一个卷出装置、一个卷进装置

Please contact the YURI ROLL Sales Dept. for detailed information and to reserve tests.

详细商品咨询与预约测试，请与我们销售部门联络。

TEL : +81-75-322-5001 http://www.yuri-roll.jp E-mail : yuriroll@yuri-roll.jp



No.1 Share in Japan

- Embossing Roll Device

轧花机国内市场占有率第一

Company Overview 公司简介

Name 公司名称	YURI ROLL Co., Ltd. 由利压花辊股份有限公司
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Address 地址	6-4 Minami Igoryo-cho, Saiin, Ukyo-ku, Kyoto 615-0037 JAPAN 〒615-0037 京都市右京区西院南井御料町 6 番地之 4
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TEL 电话号码 营业课直通	+81-75-322-5001 +81-75-322-5001
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FAX 传真号码	+81-75-311-2921 +81-75-311-2921
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Founded 创业	Feb. 1, 1909 明治 42 年 (1909 年) 2 月 1 日
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Established 创设	Jan. 7, 1955 昭和 30 年 (1955 年) 1 月 7 日
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Capital 资本额	100 million yen 1 億円
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CEO 总经理	Osamu Yuri 由利修
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