Welcome

to

Introduction
Guarneri Technology, Busto Arsizio (VA) Italia

Four generations of calenders manufacturers always in the Guarneri's name. The experience gained over more than 70 years is a guarantee of success and daily development of the most advanced calender control technology called: Nipco™

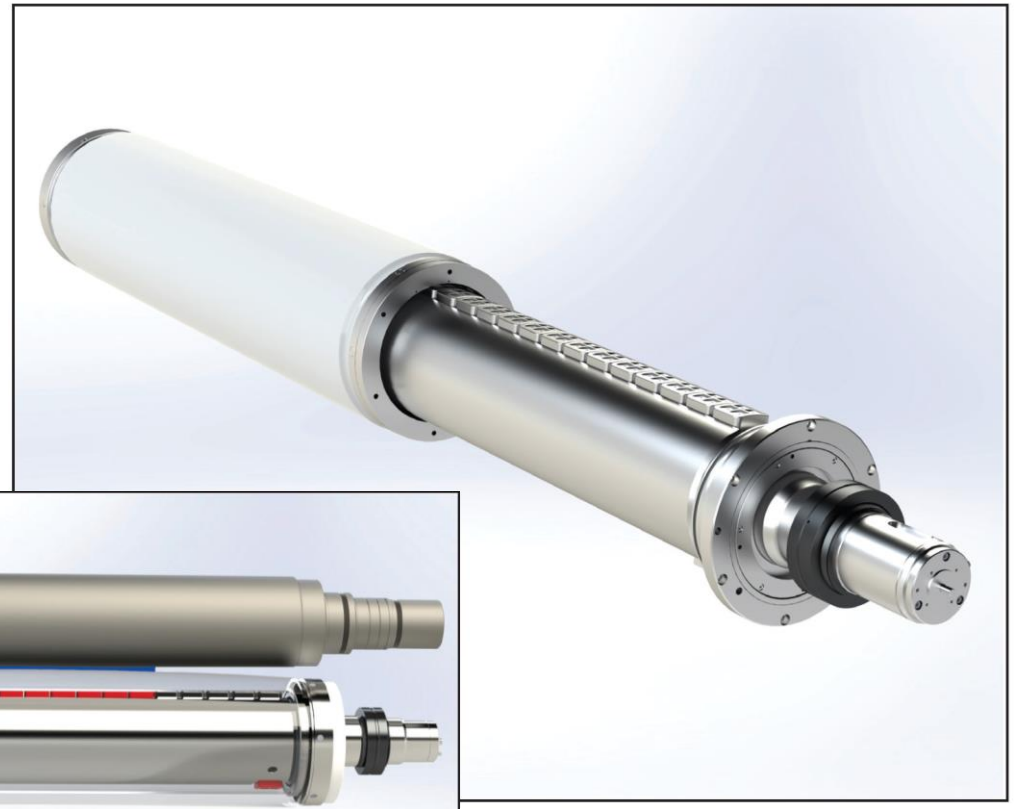
1950	Ettore Guarneri established the Ettore Guarneri Officina Meccanica in Busto Arsizio.
1954	Tullio Guarneri joins his father's company, and they start supplying local textile companies. Busto Arsizio in the '50 was called the "Italian Manchester" because of the number of textile companies existing in the Busto Arsizio's area.
1983	Ettore Guarneri joins the company and after a few years also his brother Alberto Guarneri giving life to the growth of a commercial and technical network, first in Europe and then all over the world.
2002	The Guarneri family signs a world exclusive agreement for the use of Nipco with Voith
2004	The new headquarter in Via Stefano Ferrario in Busto Arsizio is inaugurated.
2016	Voith Paper Walztechnik AG Zurich becomes not only a supplier of Nipco™ technology but also a commercial partner of Guarneri, giving life to a high-level partnership.

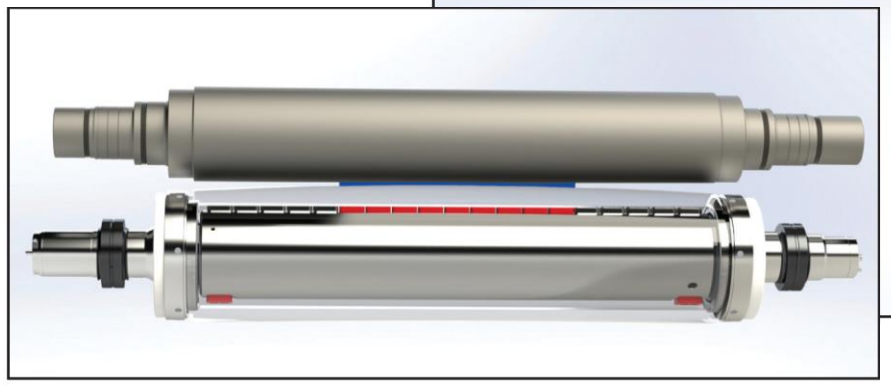
2022	On March 16th, Guarneri Technology acquires Voith Paper Walztechnik AG of Zurich, the Nipco™ brand and its patents, becoming a leader in the textile calendering, technical textile and special applications sector, including the paper embossing sector now.
Today	Over the last few years, Ettore and Alberto's children have also joined the company, giving birth to the fourth generation of calender manufacturers. The corporate motto "A Family Company" is synonymous to how the Guarneri family is entirely dedicated to the development and growth of what is considered the heritage for all our Customers.

Nipco™ Technology
The key to success

Basic concept born in 1971

Thousands of delivered Nipco™ rolls
are testimony to the vast experience garnered from
the most diverse sectors,
including many outside of the paper industry.





<u>The Nipco™ rolls today:</u>
solid, reliable and
maintenance-friendly roll
concepts

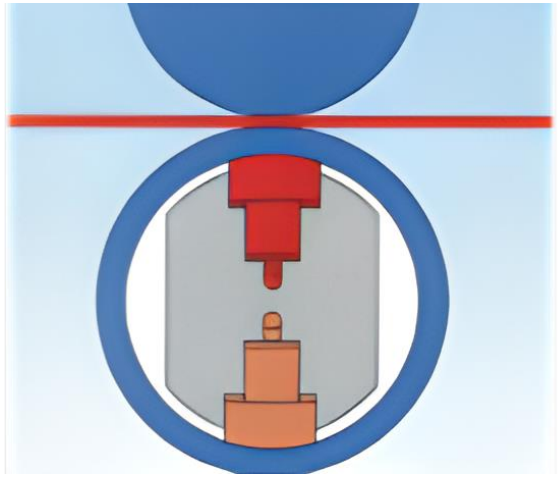
Nipco™ Technology

Technical Features

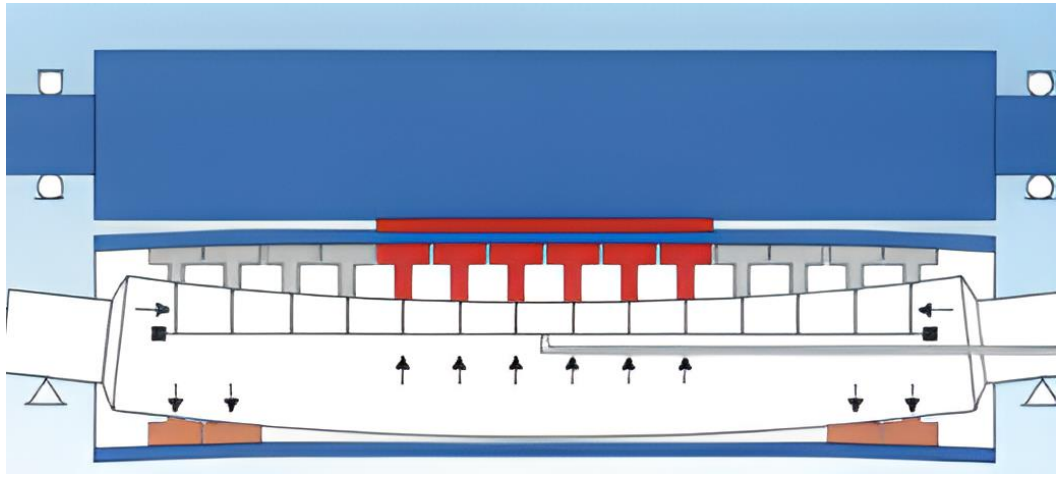
Linear loads	20 – 15.000	N/mm
Speeds	5 – 2.200	m/min
Product widths	500 – 12.800	mm
Surface temperatures up to	300	°C

Nipco™ Technology
Principle

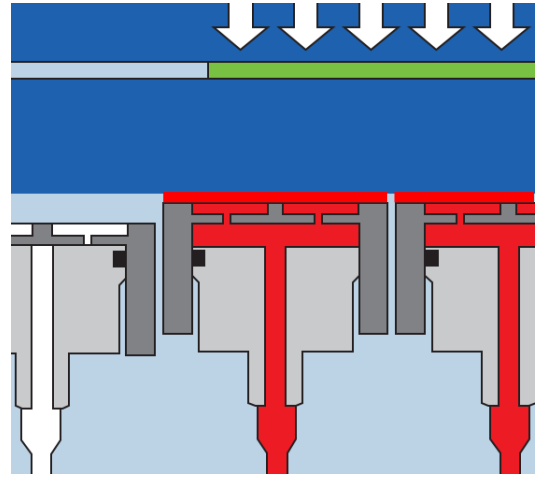
The Nipco™ roll principle with three key elements



Rotating roll shell



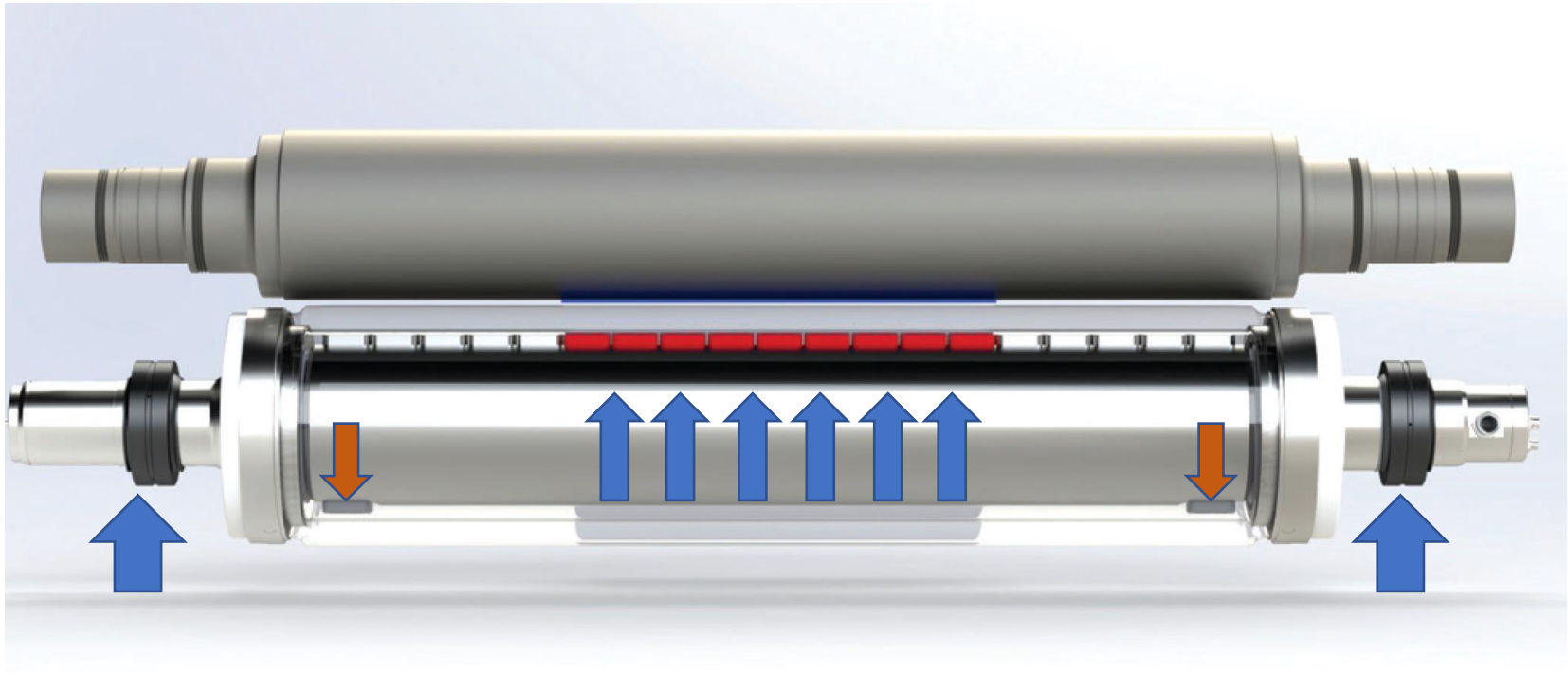
Stationary cross shaft



Hydrostatic pistons

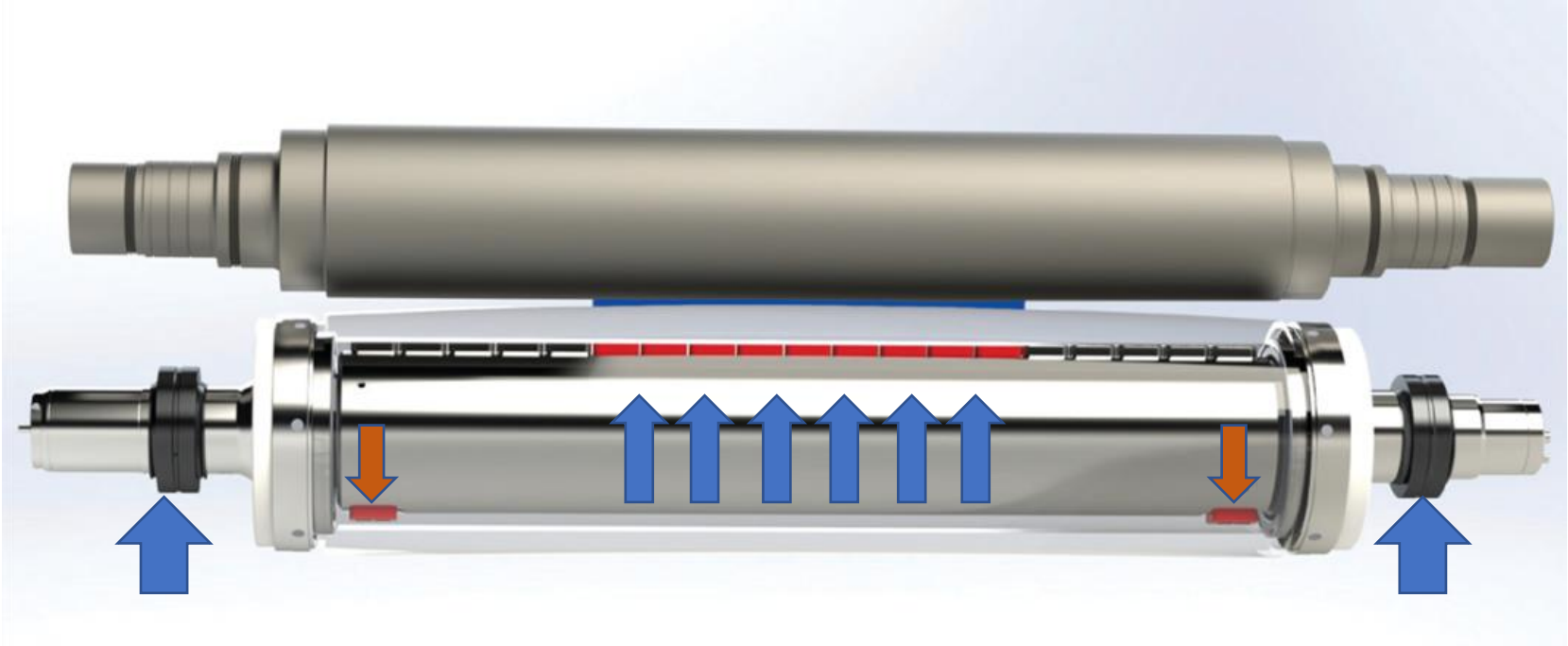
Nipco™ Technology
Advantages

Uniform line pressure over the fabric width



Nipco™ Technology
Advantages

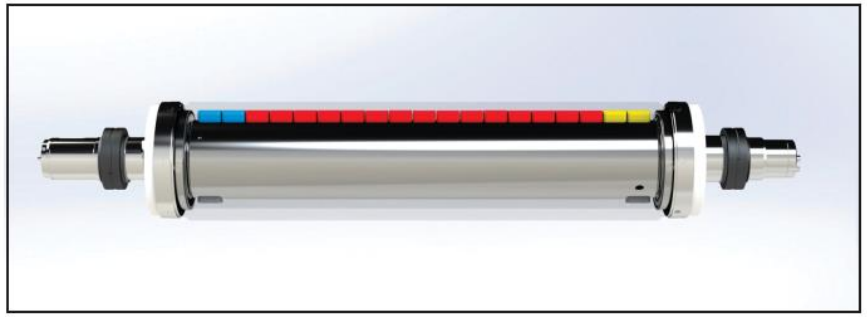
Uniform line pressure over the fabric width



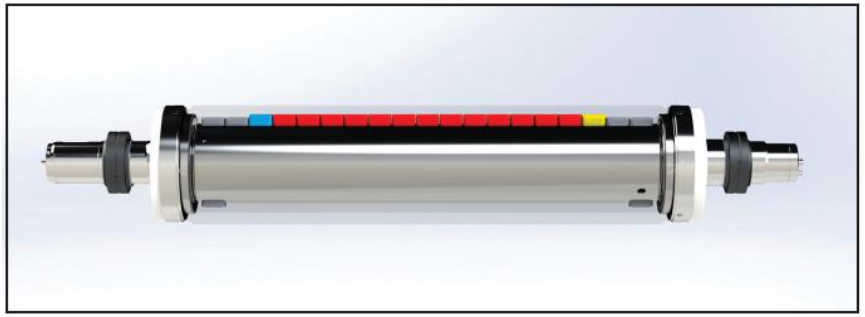
Thermal relief of the sleeve next to the fabric by retraction forces

Nipco™ Technology

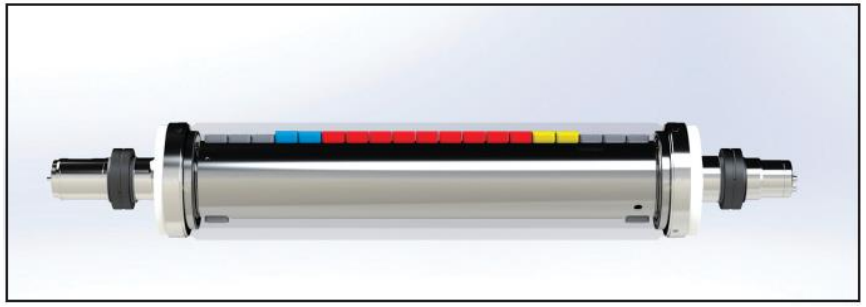
Nipco™ WISE – Edge control



3 independent pressure zones, with the possibility to adjust the pressure for each zone

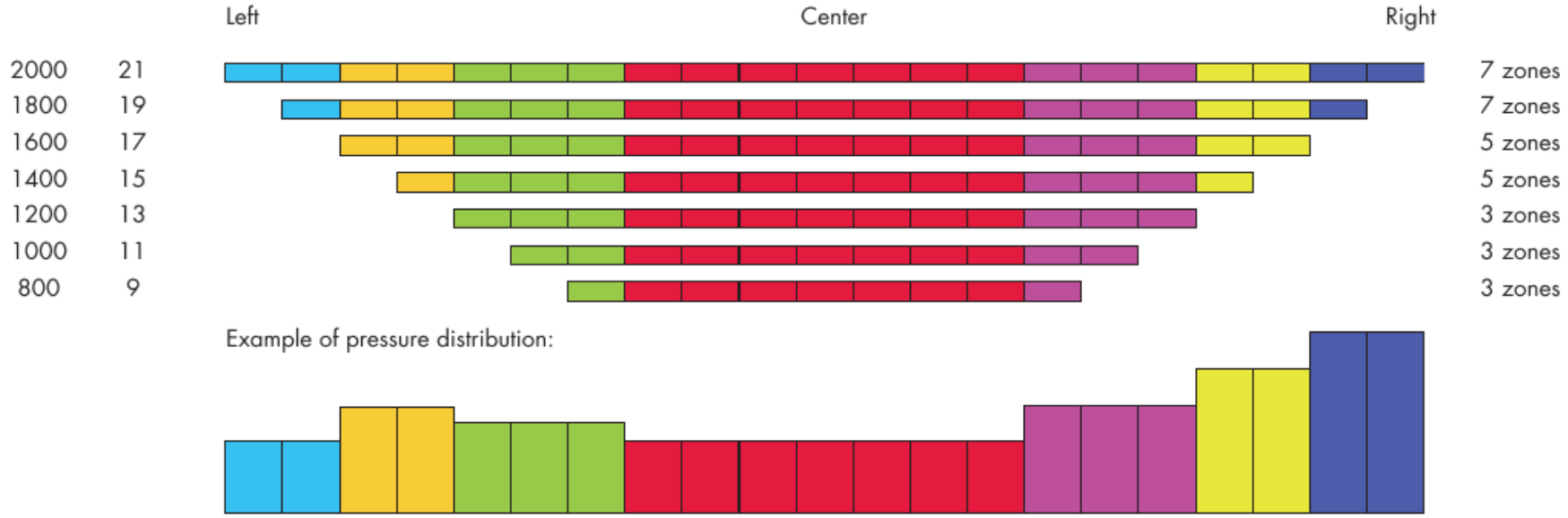


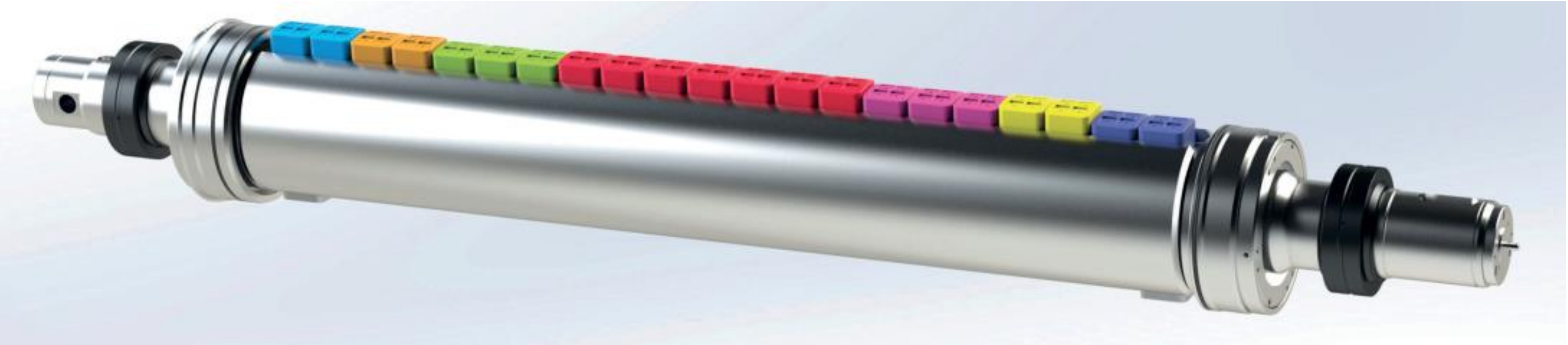
Thanks to the width adjusting device is possible to set different pressures in step from 100 to 300 mm. each side, in order to prevent any defect at the edges of the fabric



WISE system, in combination with a dedicated software, adapts to the width of the fabric by a manual or motorized adjusting device

Nipco™ HT Calender Technology





Product overview

Nipco™ Calender Technologies

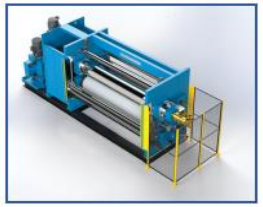
Nipco™ I

Nipco™ WISE

Nipco™ Chaising

Nipco™ Air Hybrid

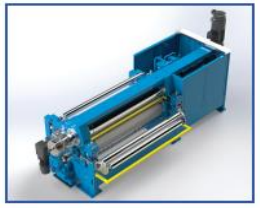
Double Nipco™ I



Nipco™ HT

Nipco™ Multiflex

Simili



Nipco™ L

Nipco™ Hot

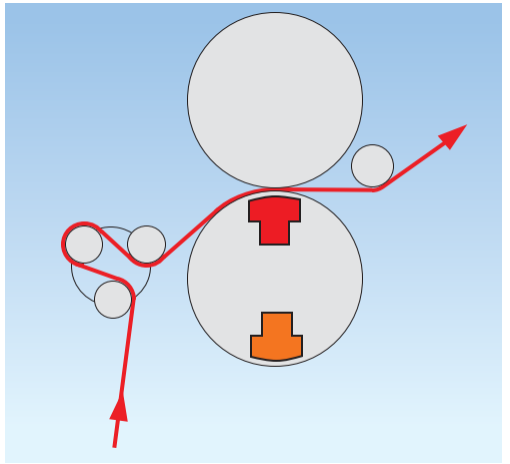
Nipco™ Embossing

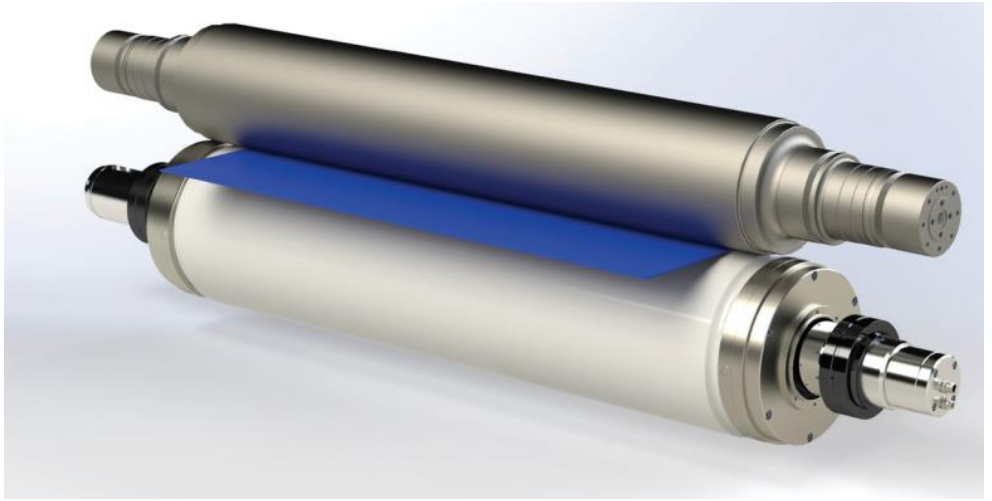
Conventional

Nipco™ I Calender

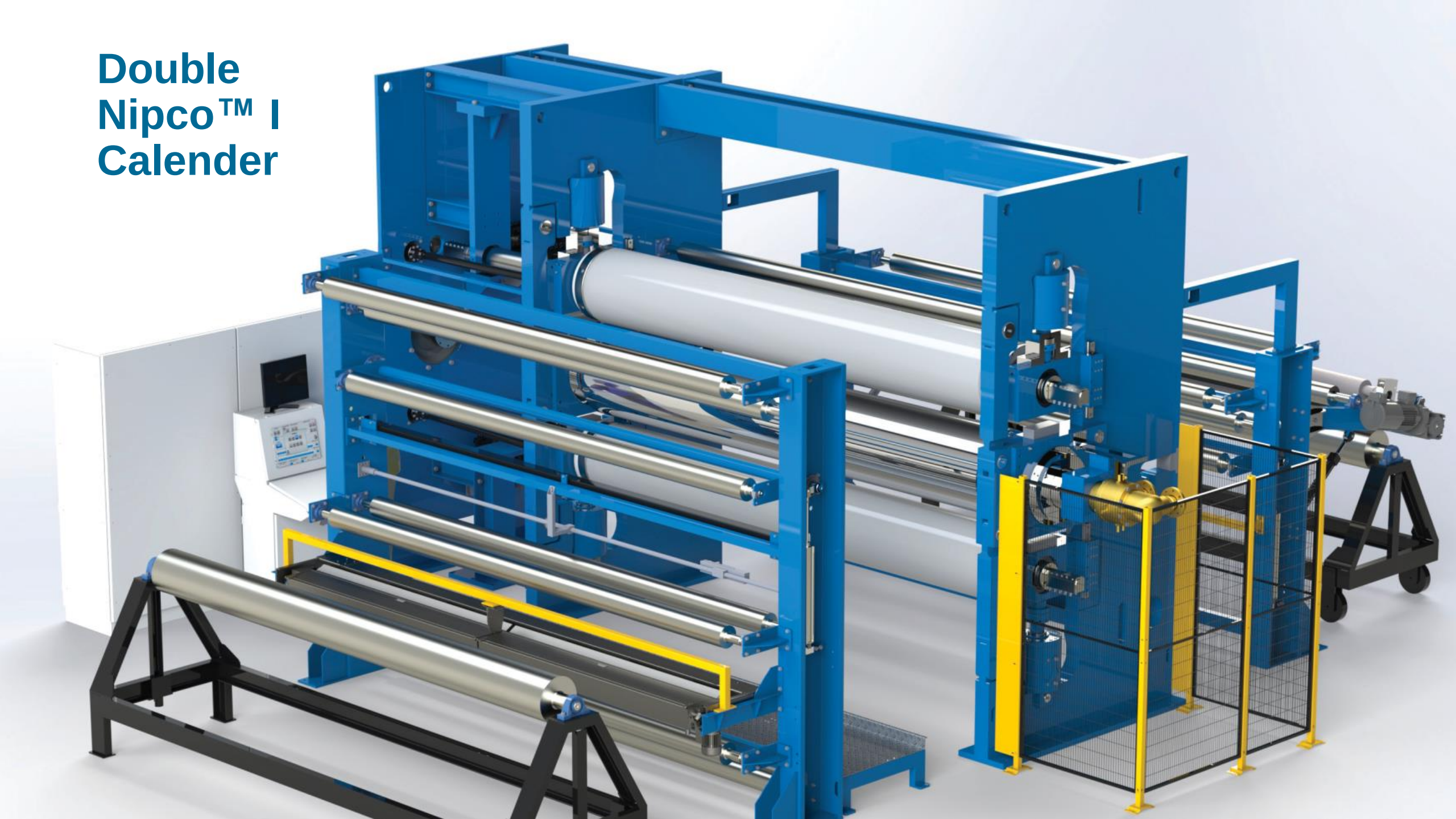
Nipco™ I Calender

- Uniform line pressure distribution in the nip over the fabric width
- Adjustable pressing width to suit change of fabric width under pressure without stopping production
- Thermal relief of the sleeve next to the fabric by retraction forces, variable setting to prevent burning out and edge marking of the sleeve
- Stepless selectable line pressure in the nip
- Easy installation and change of any sleeve under consideration by our cantilever systems
- Same sleeve for the complete range of your fabrics in different widths



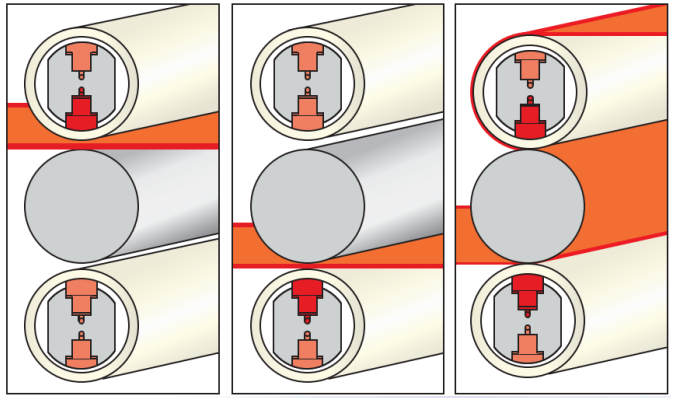


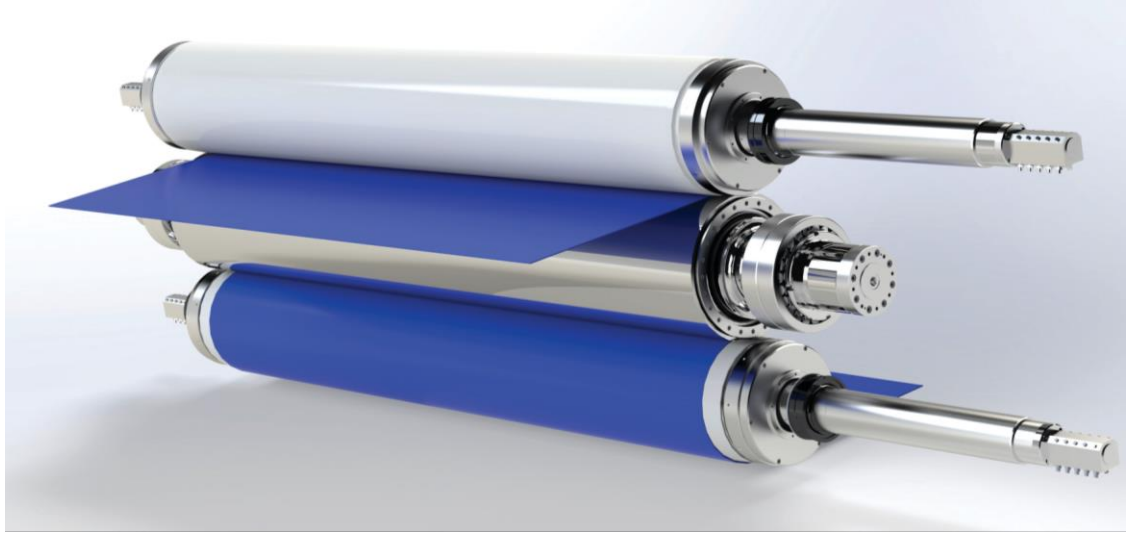
Double Nipco™ I Calender



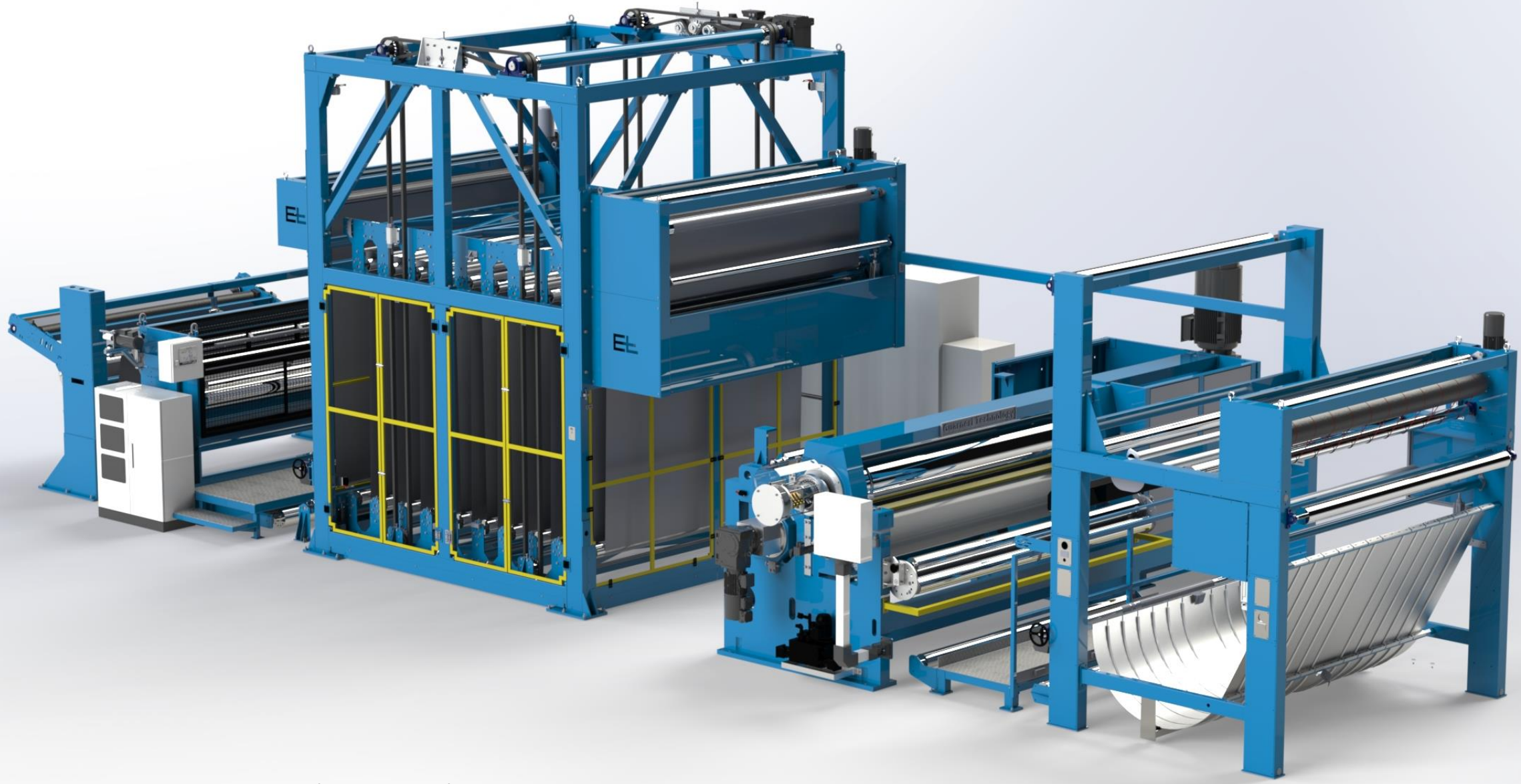
Double Nipco™ I Calender

- 50 – 400 N/mm line force
- Individual zone-controlled pressure setting
- Pre-selecting of required pressured line profile
- Reacting on edge elongation by zone-controlled pressure reducing
- Turnkey project including
  - Unwinder
  - Metal detector
  - Seam detector
  - Nipco™ Calender system with 2 Nipco™ rolls
  - Winder



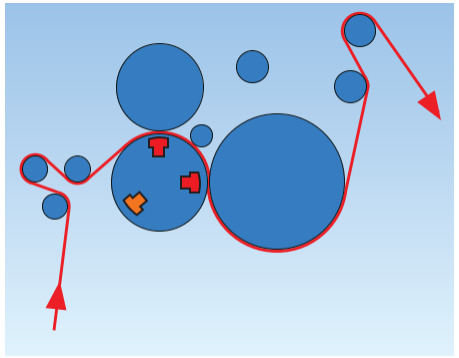


Nipco™ L Calender with accumulator system



Nipco™ L Calender

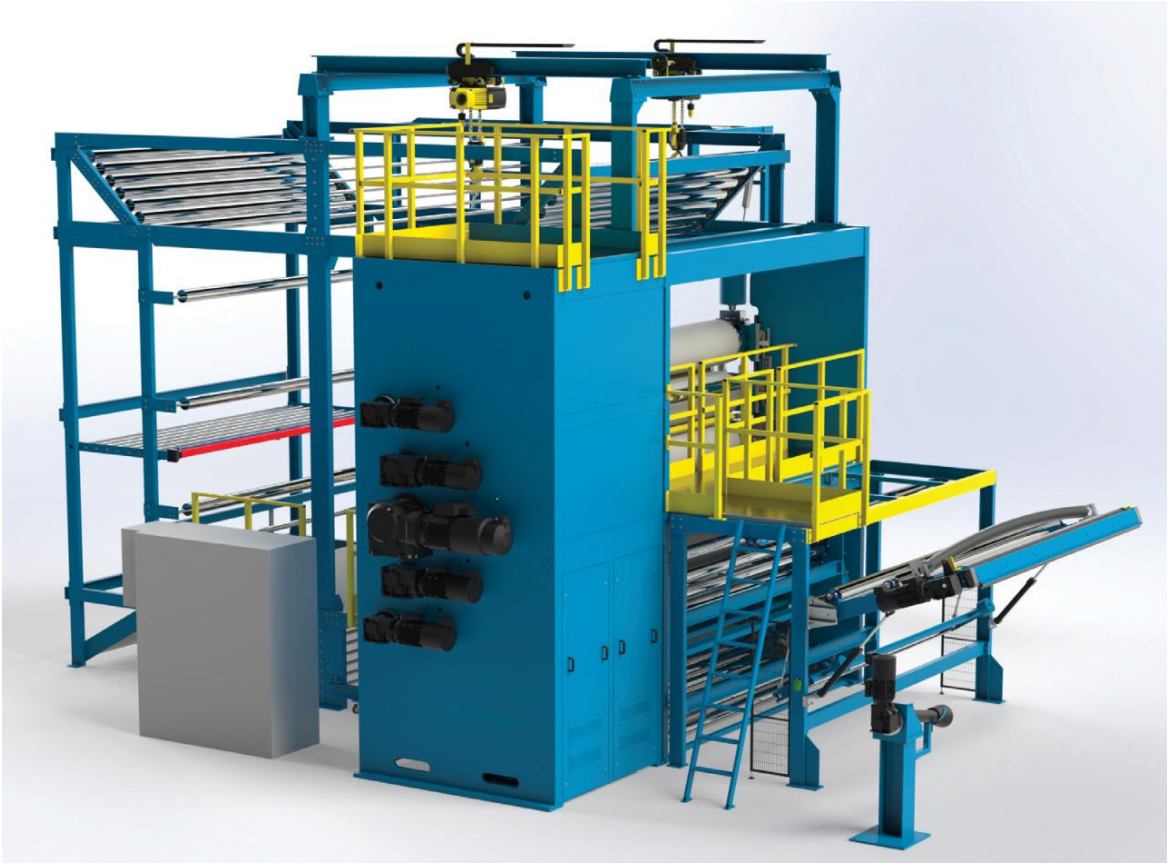
- Two completely independent pressure lines are active in one calender at the same time
- Uniform pressure lines in two nips with pressure lines according to market requirements
- Width adjusting according to different fabric widths in order to protect out burning and marking of the sleeve
- No friction in the nip caused by slide on sleeves to the process bowl
- None computer supported force comparison between outer forces and inner deflection compensating forces
- Easy sleeve change by our cantilever system



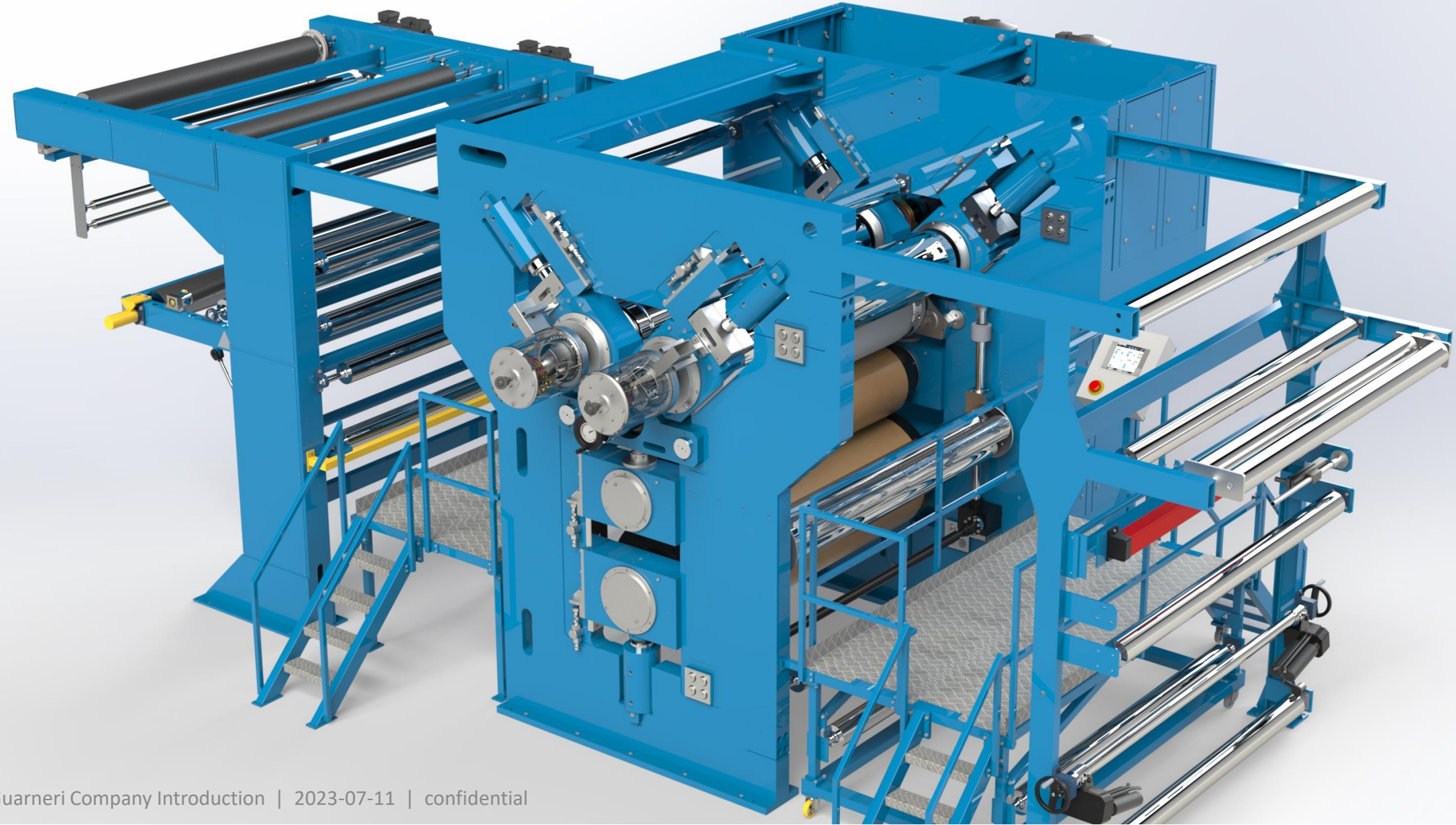
Nipco™ Chasing Calender

Nipco™ Chasing Calender

- All 5 bowls cylindrical
- Nipco™ bowls in top and bottom position to avoid deflection and bowl crowning
- Pressure adjusting in accordance with the known Nipco ™ technology
- All rolls with same diameters which is most important to have the expected result
- Unique web guiding in in-feed and out-feed to avoid wrinkles
- Special web guiding to avoid any elongation, which requires a specific know how of all Engineers being involved



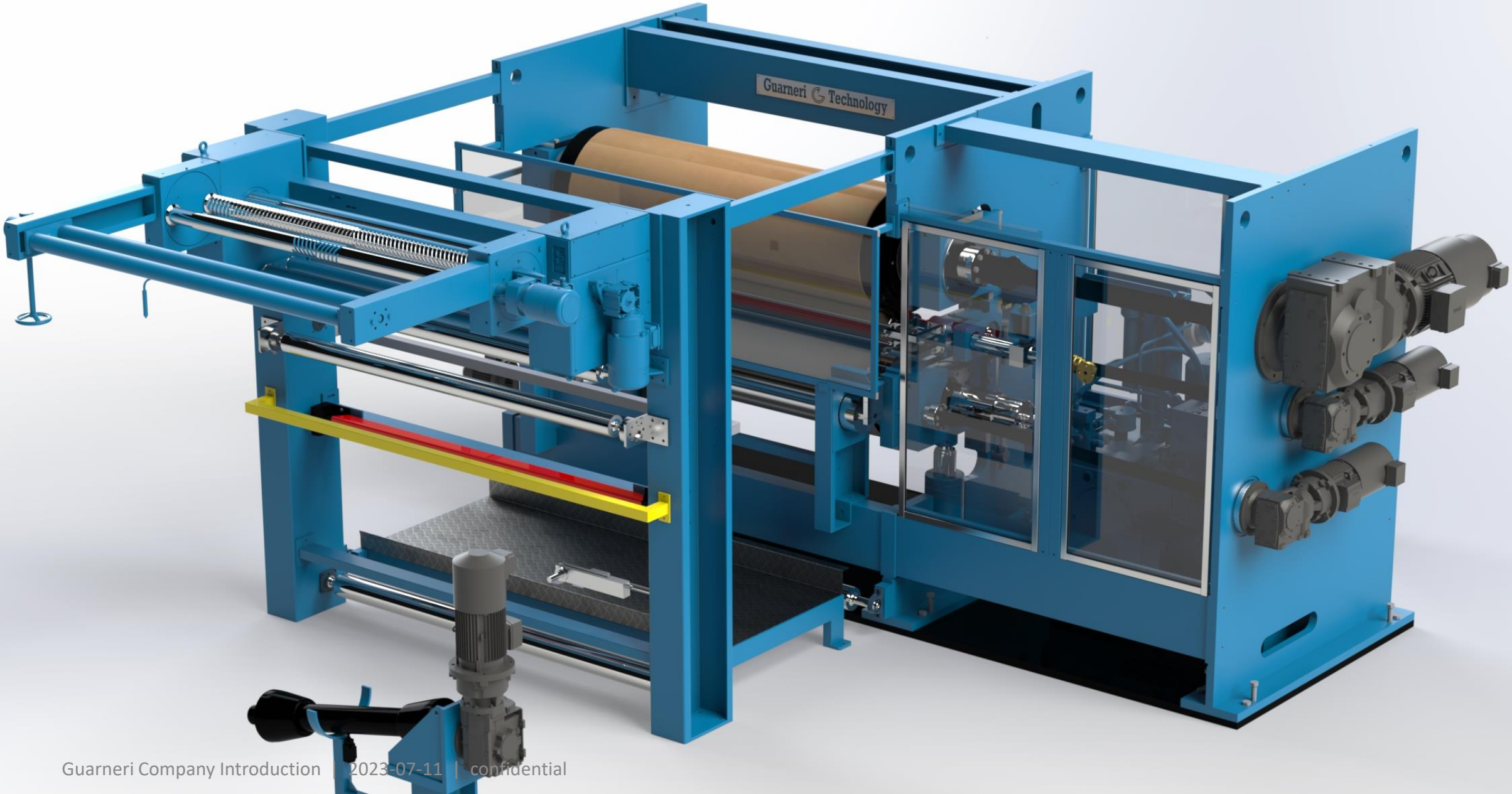
Nipco™ Multiflex Calender



Nipco™ Multiflex Calender

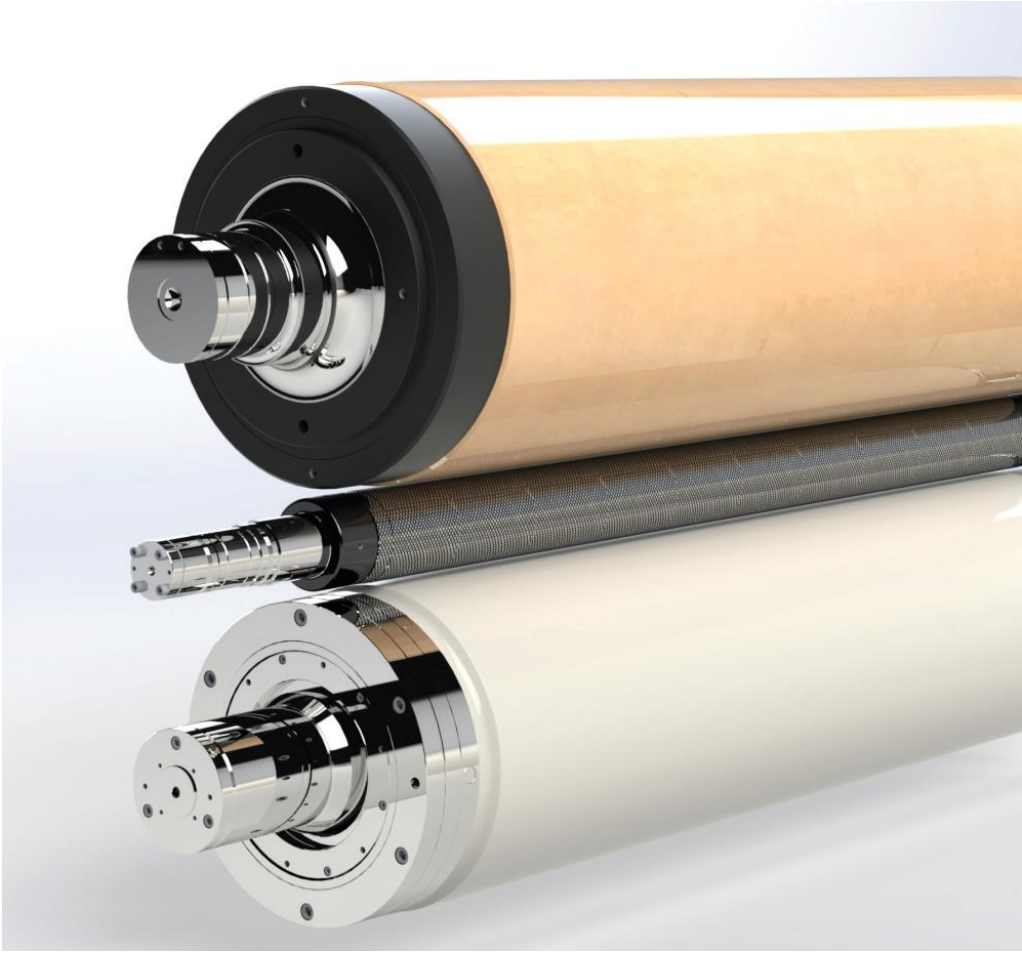
- Universal calender with high production speeds
- Up to 5 bowls, composed by max 3 pressure lines
- Each pressure line individually and independently controlled across the width
- No more pre-calendering operations, as all requested
  results are now combined in one machine
- More shine, more lustre, more textile touch and more softness than ever obtained with a calender
- Different fabric passages, each pressure line individually controlled by means of proportional valves
- Multi-purpose embossing unit with 3 embossed steel bowls, each one individually selectable
- 3 pressure levels, 1 working process

Nipco™ Embossing Calender

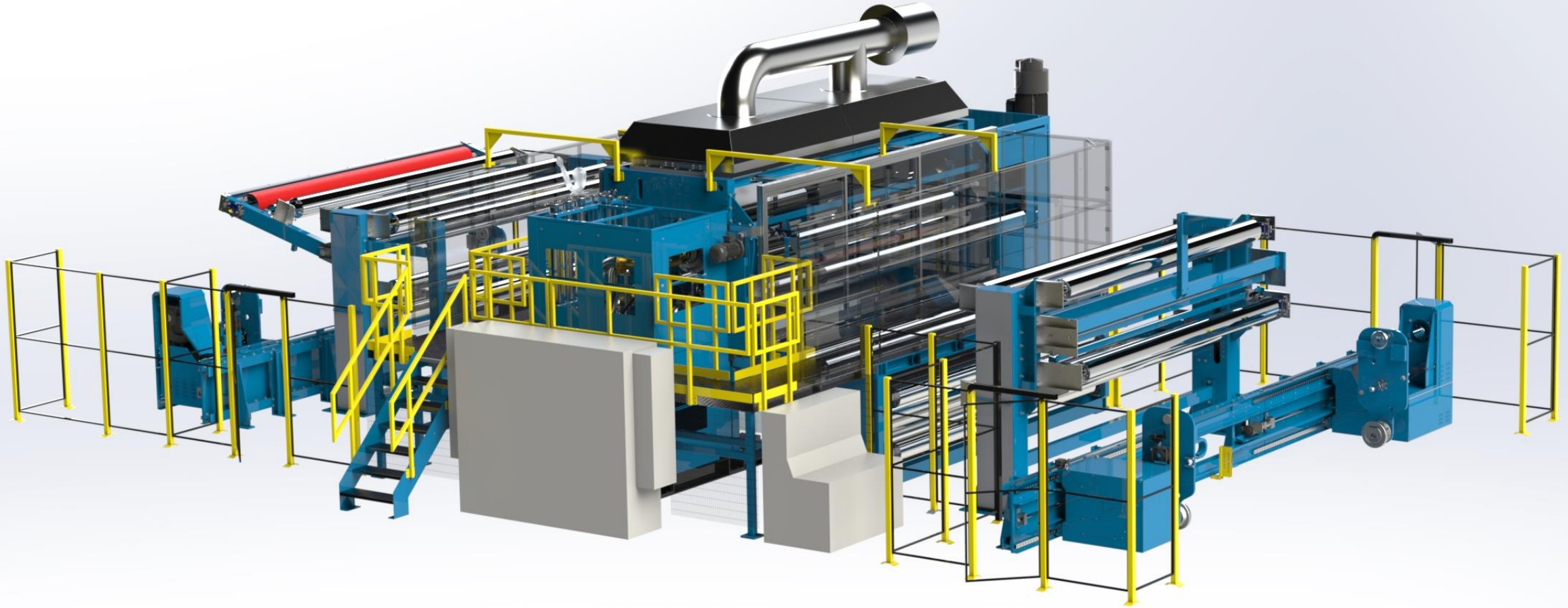


Nipco™ Embossing Calender

- Embossing calender with mandrel and tube
- Infinitely selectable line pressure in the nip.
- Thermal relief of the GTP6 sleeve next to the fabric by retraction pistons to ensure a long roll sleeve life.
- Same sleeve for various fabric widths; no change of sleeve necessary.
- Relief from thick fabric selvedges (Sulzer selvedges) and gentle treatment of the selvedges of knitted fabrics by line force adjustment in the edge zone.
- Easy installation and removal of the GTP6 sleeve and engraving tube through shaft extension and clamp holder.
- Reduction of engraving costs through small tub

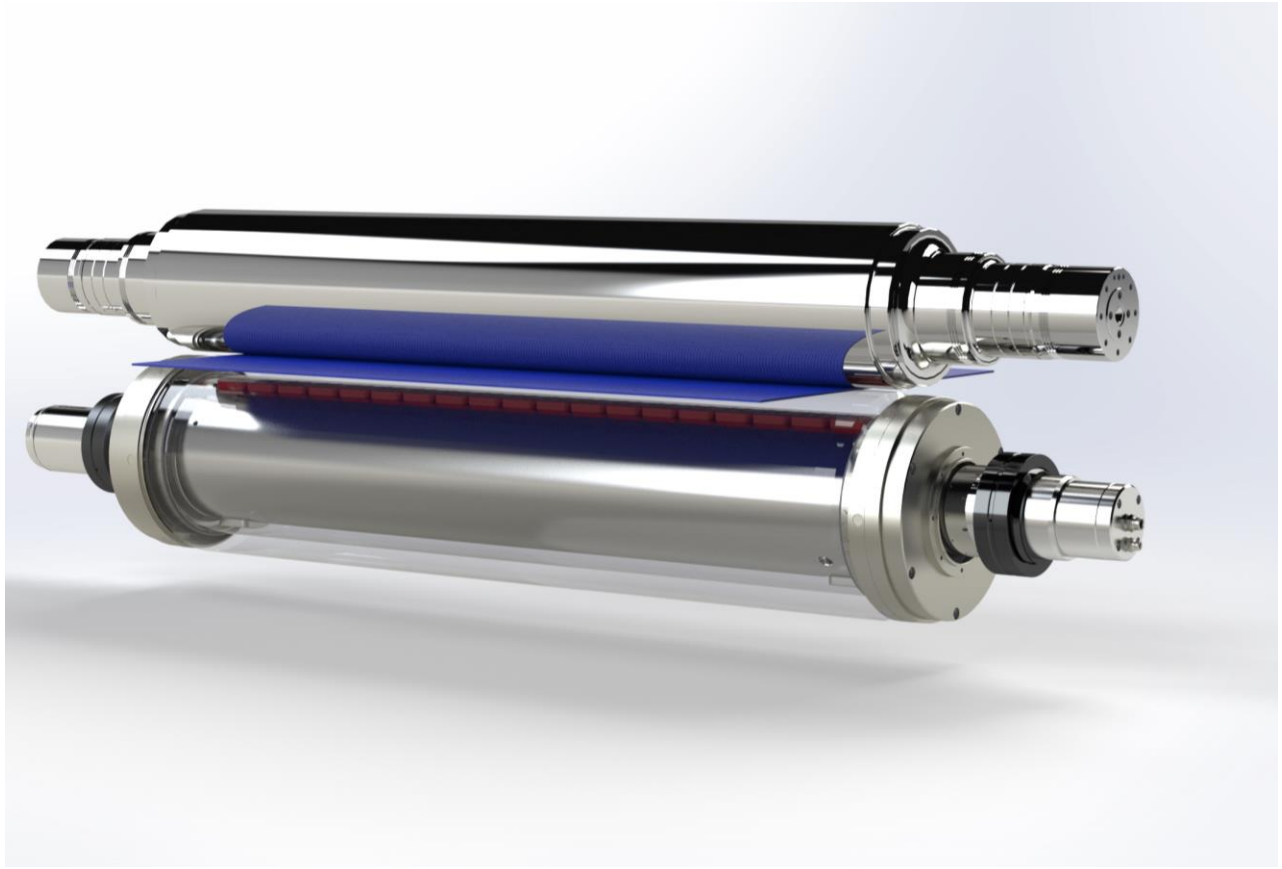


Nipco™ HOT Calender



Nipco™ HOT Calender

- Turnkey project including
  - Unwinder
  - Breaking system
  - Nipco™ Hot Calender system
  - Tension system
  - Inline Textest system
  - Winder
- Nipco™ HOT Roll System with hot oil heating
- Zone controlled line force distribution
- Up to 440 N/mm line force
- 250°C max. roll surface temperature



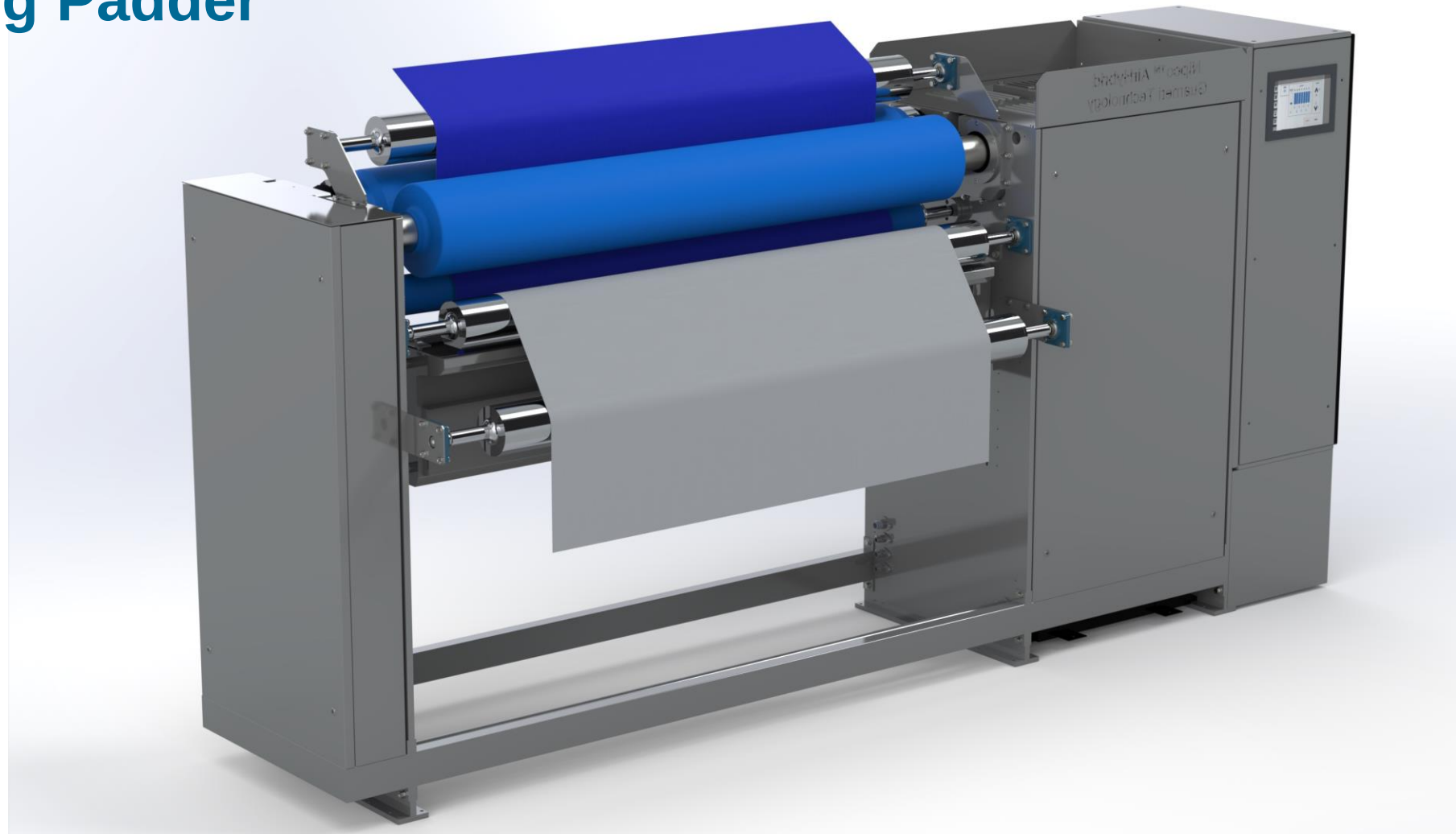
Nipco™ Simili Calender

Nipco™ Simili Calender

- 4 bowl Simili Calender
- Standard roller width 2.000 mm
- Pressure up to 500 N/mm
- Speed up to 60 mt/min
- Temperature up to 320°C

Best solution for simili-mercerisation that reduces the swelling point of the cotton fibre becoming high permanent gloss for African damask and poplin material of pure cotton.
The rollers configuration of our Simili calender is composed by two steel rollers and two rollers cover by a blend of pure cotton and special fiber, named GTHT.

Nipco™ AirHybrid Technology
Dyeing Padder

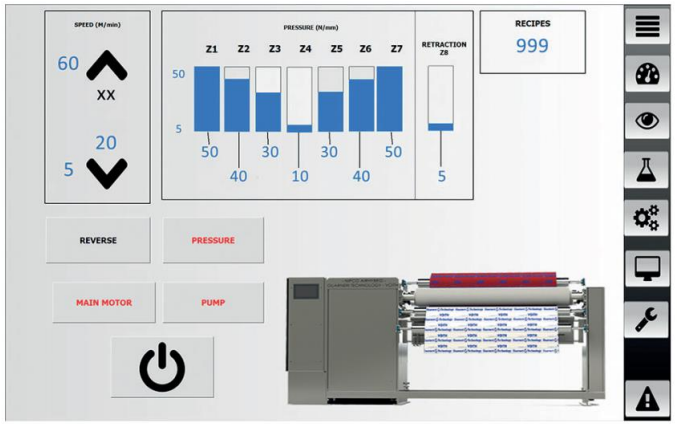


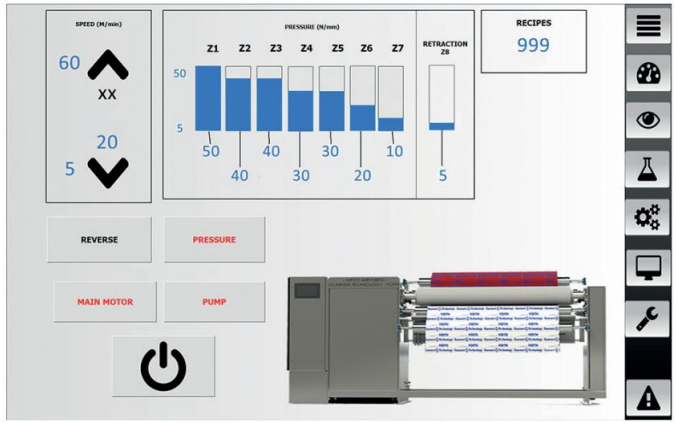
Nipco™ AirHybrid Technology – Dyeing Padder

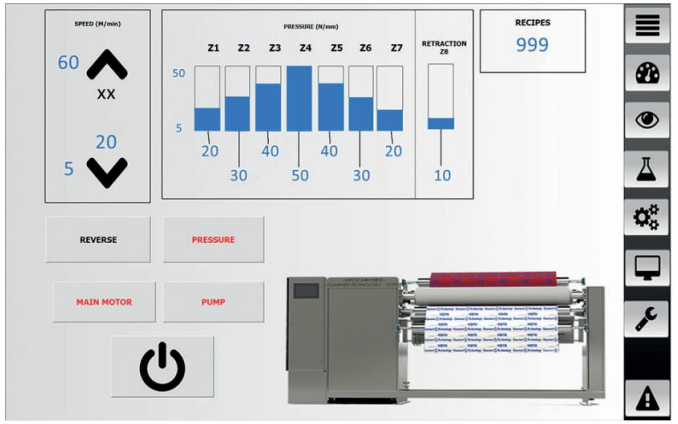
- Linear loads 10 - 50 N/mm
- Roller width 1.000 - 4.000 mm
- Roller diameter 265 / 300 mm
- Quick sleeve change

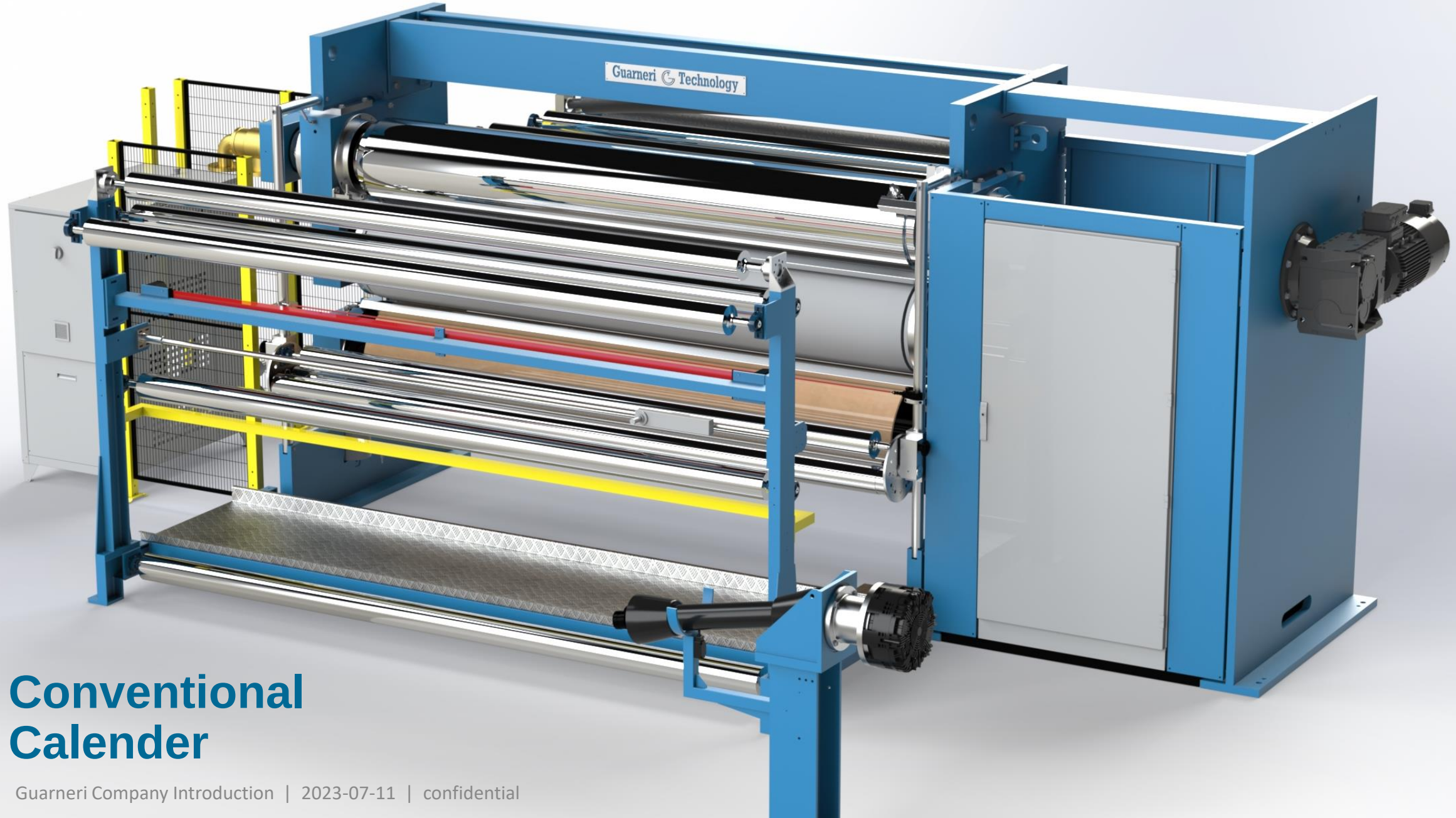
Homogenous press force distribution over entire material width with individual adjustable edge areas .

Cantilever execution with sleeve quick change system (CONEX) to change the highly flexible sleeve system with different surface materials









Conventional Calender

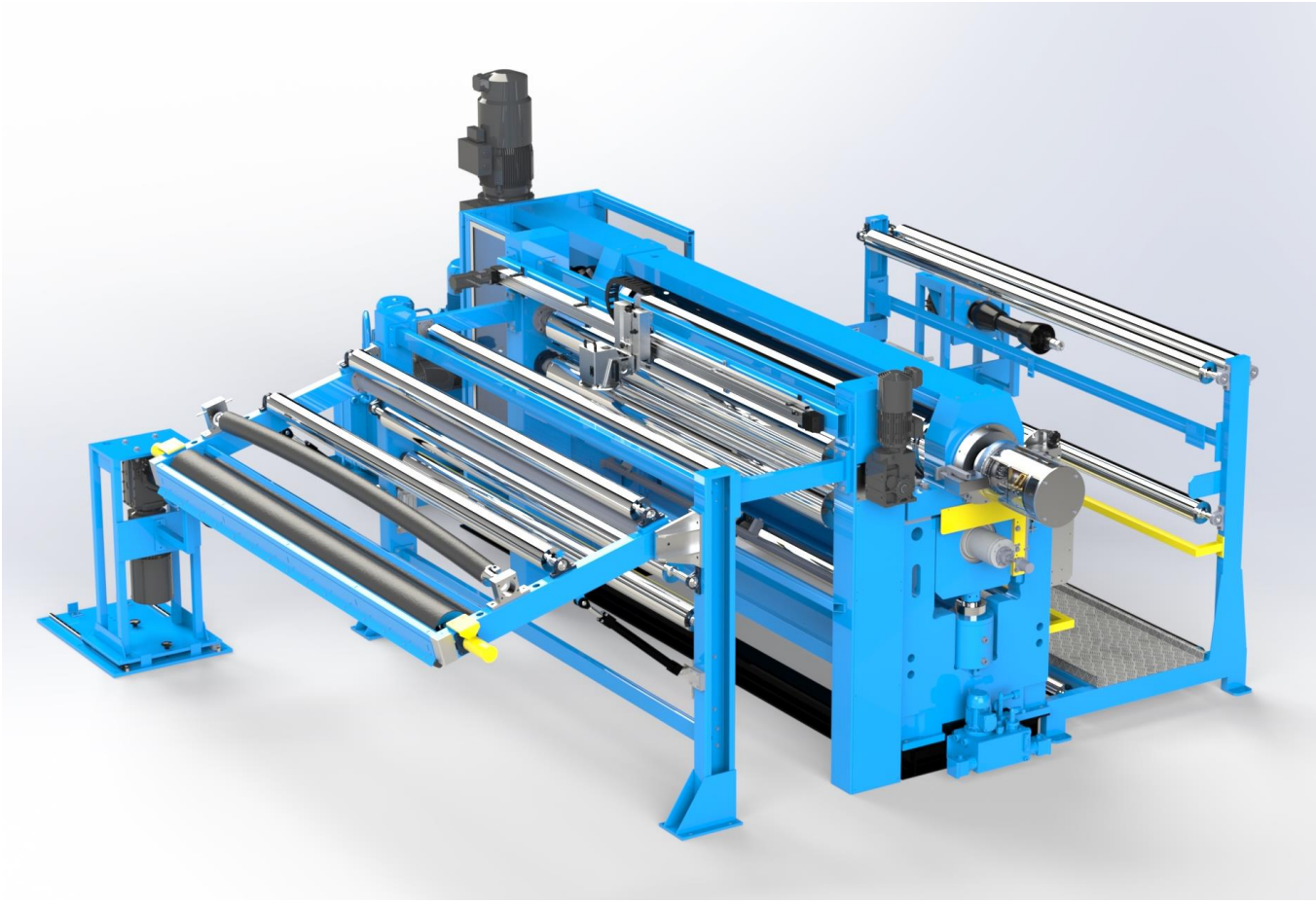
Conventional Calender

Conventional Calender GTC260
2 bowled conventional calender offers constant line force and a defined crown on the steel roller surface.

Conventional Calender GTC360
3 bowl conventional calender concept. With its different bowls configuration gives high performance where the deflection compensation control is not required.

Conventional Calender GTC470
4 bowl conventional calender with its 12 different bowls configuration is very well appreciate where the camber on the rollers are accepted.

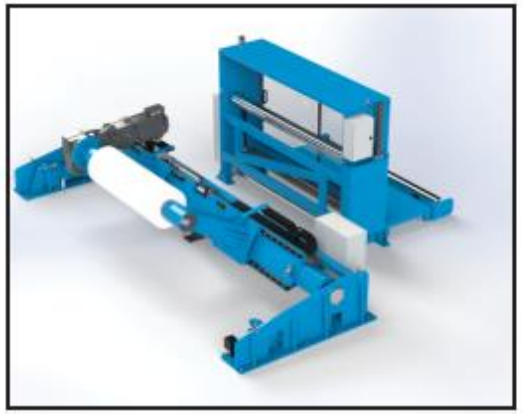
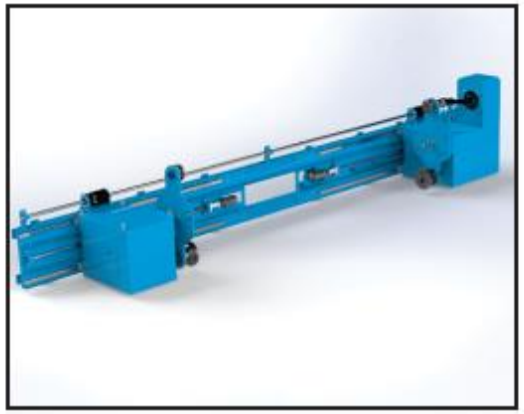
Conventional Calender GTC570
5 bowl conventional calender with to reach high degree of softness between the roller nips.



Entry & Exit frames

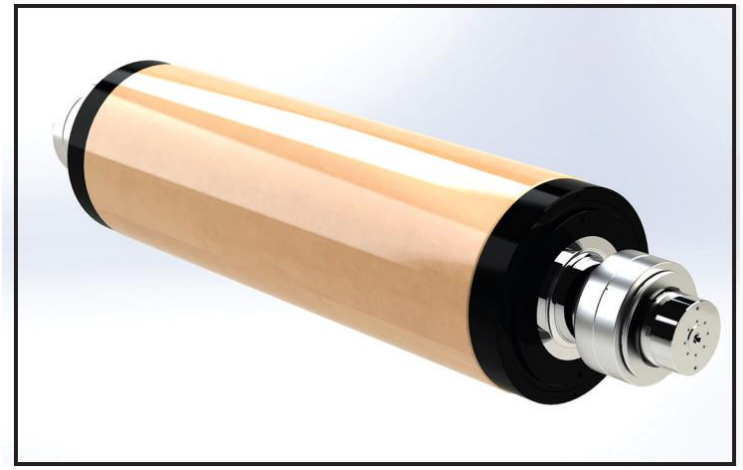
Unwinder/winder
This units are made of a tilting steel structure with two independent arms equipped with pneumatic expansion couplings or openable supports for square bars where the rolls of fabric/paper are positioned. The arms can be moved to the right/left allowing the installation of rolls of different widths.

Furthermore in calendering mode they keep the material centered with the line. The tension in the material is controlled and guaranteed through a dancer and load cell which manage the gearmotor installed on one of the arms.

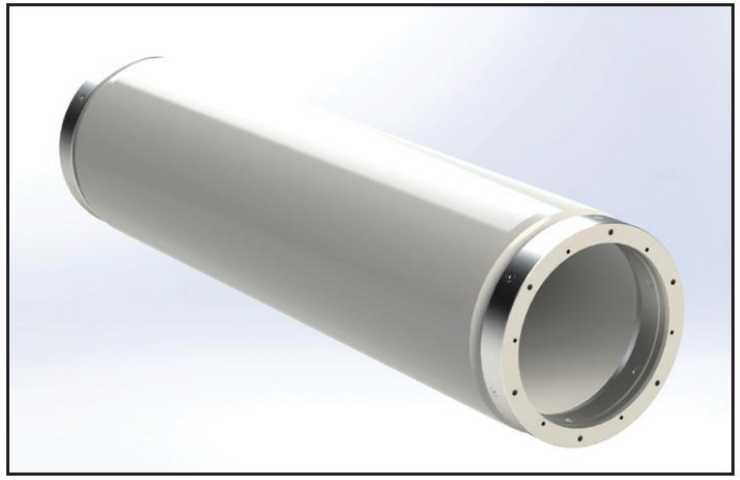



Cover Systems

Cotton Cover
100% Egyptian long fiber natural cotton. Cotton threads are oriented circumferentially around the bowl giving far greater strength to the cover and also a softer feel to the fabric. High performance in terms of resilience, heat resistance and lifetime of the fibres. Small marks and scratches can be removed by the ironing process.



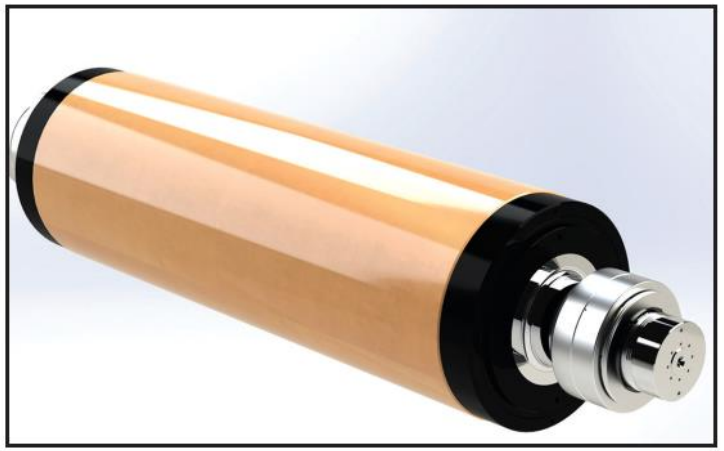
GTP6 Polyamide Sleeve
GTP6 is high elasticity and resilience. Our sleeves are produced using a centrifugal process to ensure perfect homogeneity of the material. It largely resists against seams and fabric selvedges. Maintenance through the ironing process is quick and easy. Fast and easy replacement of the sleeve using special tools.



Cover Systems

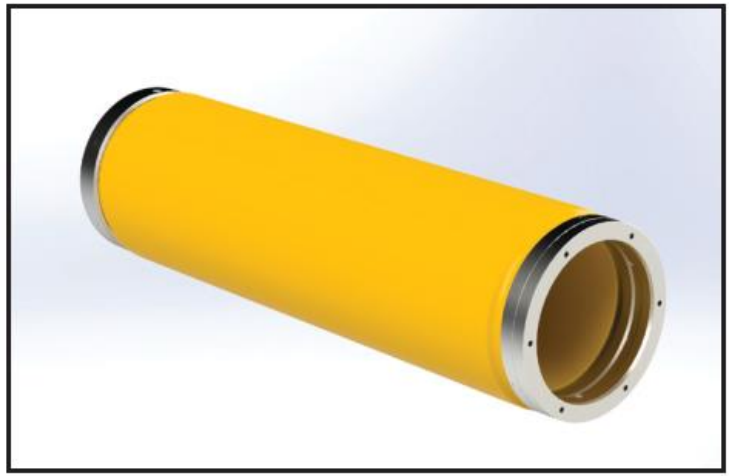
GT High Temperature Cover

This cover uses a special formulation between cotton and synthetic fibres, prepared in a particularly way.
One of the many advantages of using GTHT cover is that it is able to reach a surface temperature 250°C against the steel roller with max temperature of 400°C.



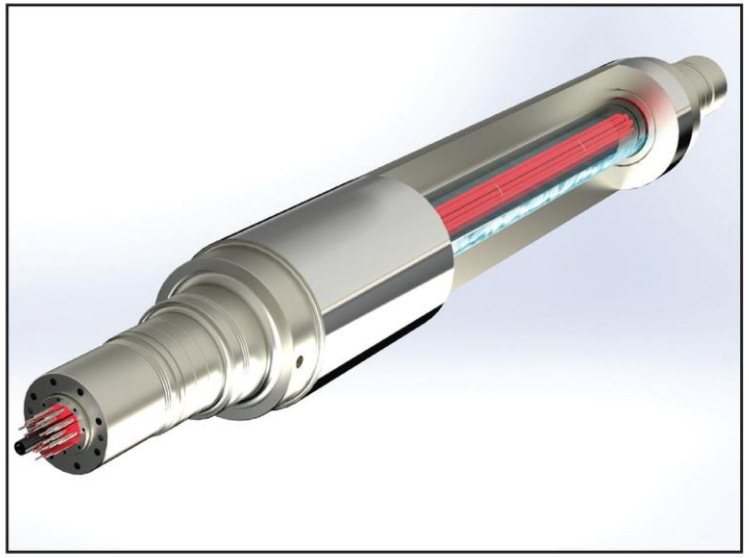
TT3 Sleeve FullFlex shell system

Different applications require harder Nip conditions than a standard polyamide shell system can deliver.
The FullFlex shell system combined with a composite cover was specially developed for these purposes. Compared to polyamide, the glass fiber reinforced shell has a higher modulus of elasticity and can operate with higher line loads. With different fabric materials it is possible to save some passes through the calender and reduce production costs and time.

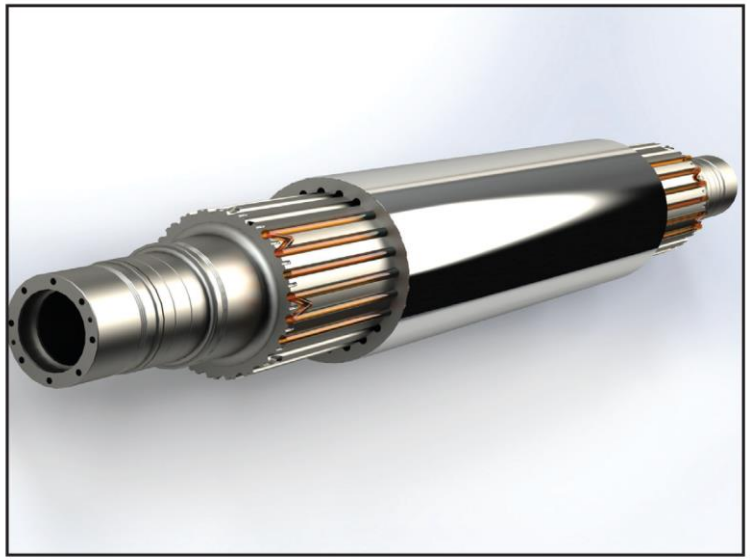


Heating Systems

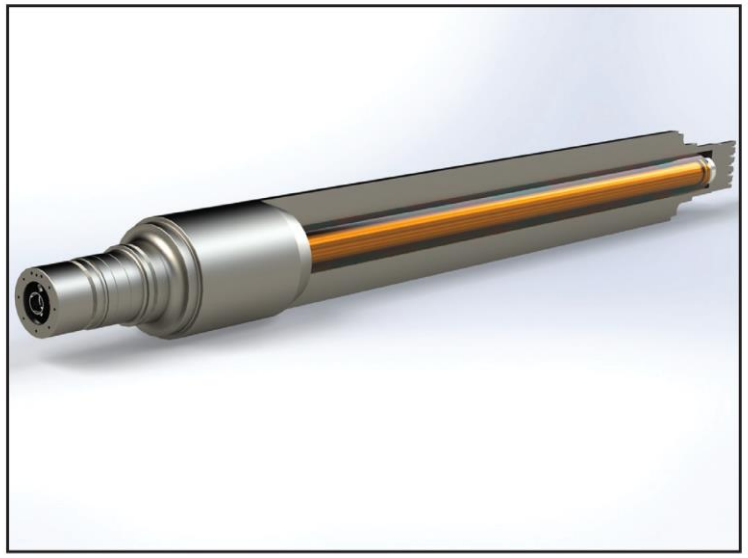
Electro Hot Water



Peripherical drilling system



Thermal Oil Heating



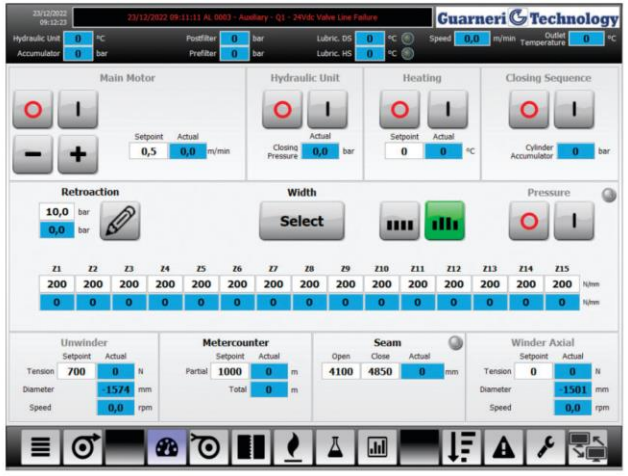
Control and Electrical Systems

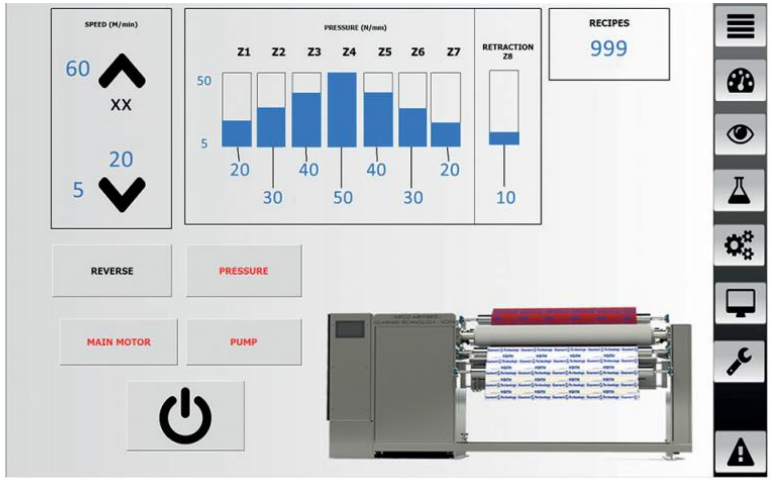
Main Control

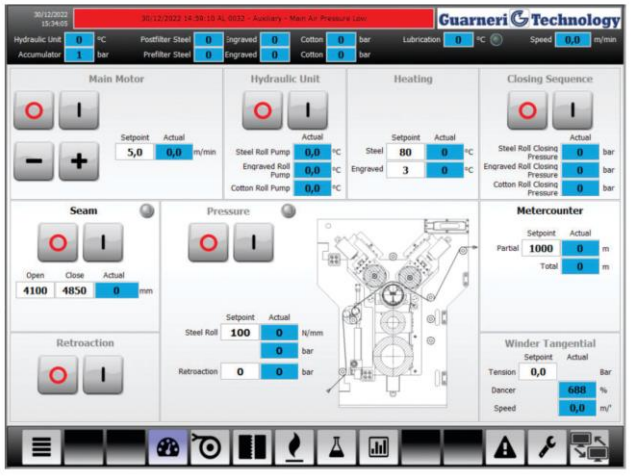
Siemens S7 - State of the art control by Siemens in the latest available version to control the functions of the calender. All our calenders are equipped with this system for recipe control, maintenance announcements, service requirements etc.

Human Machine Interface

Displayed on 15” touch screen, all individual settings have to be retrievable in a qualified recipe management.





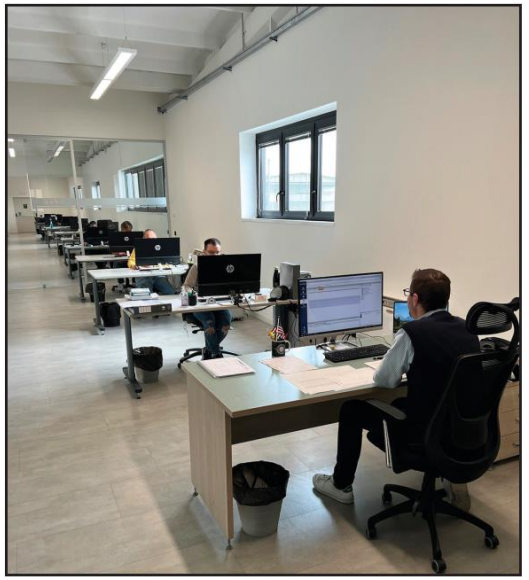


Calender Service and Spare Parts

Original Nipco™ spare parts are mandatory for excellent roll performance. Following service are offered.

- Dismantling, check and revision of all Nipco rollers
- Nipco static and dynamic test
- Regrinding of all kind of textile rollers as rubber, cotton, woollenpaper, steel and polyamide
- Refilling of all type and sizes of cotton or woolenpaper rollers
- Modification of cotton or woollenpaper bowl to GTP6 polyamide roller
- Sleeves with all diameters and lengths.
- Re-covering of existing rollers
- Complete overhaul of existing calenders with CE certification

A dedicated team for online service in real time to give our best and prompt assistance.



Nipco™ Roll Service and Original Spare Parts

Nipco™ spare parts are mandatory for excellent roll performance.
Following service packages are available.

- **Standard On-site Roll Service**
  The Nipco roll stays during the service in the machine.
  Piston Sealings and pistons as well as shell sealings can be changed

- **Advanced On-Site Roll Service**
  In addition to the Standard On-Site Service the sealings of the bearing, incl. bearing can be changed

- **Full In-house Service**
  During the full service the entire roll will be disassembled.
  All pipes and drillings will be cleaned and checked for contaminations.
  All service works from Standard and Advanced Service are included

Thank you for your attention