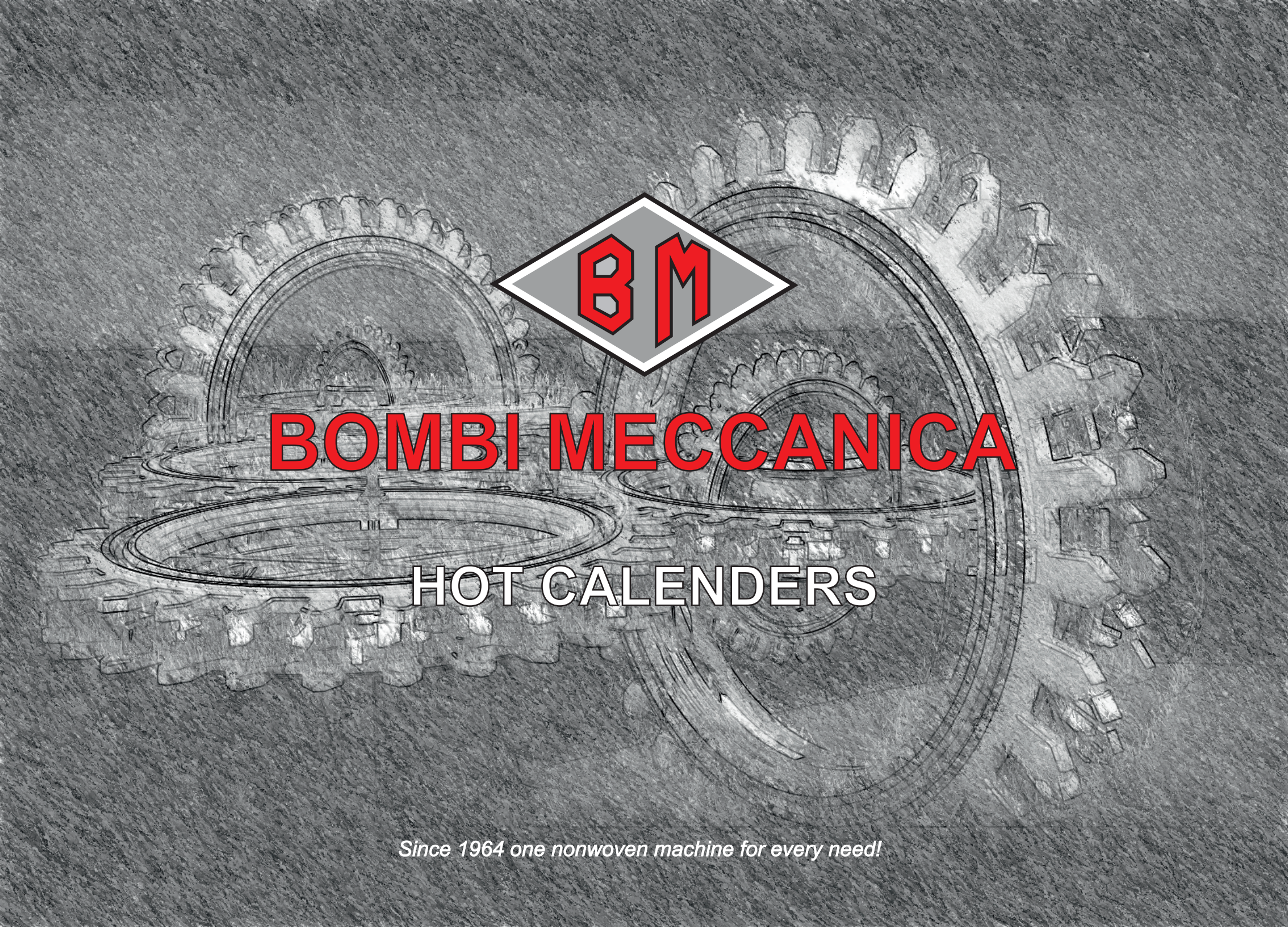


BOMBI MECCANICA

HOT CALENDERS

Since 1964 one nonwoven machine for every need!

HOT CALANDER FOR FELT

New calander **Super T 3 rolls**, is the arrival point of the evolution for this machine that is normally used for the treatment of needle punched felts for the production of **geotextiles, filters, wipers and technical felts.**

HOT CALANDER FOR FELT

- Rolls surface chromed or hardened
- Independent temperature for each roll
- Cooling rolls in exit
- Rolls diameter up to 800mm
- Rolls width up to 7100mm
- Parameters control via plc and operator panel
- Working pressure up to 150t
- Rolls bending compensation from control board
- Rolls heated with thermal oil circulation
- Oil heated with electric or gas fired unit
- Upper hood for smoke removal

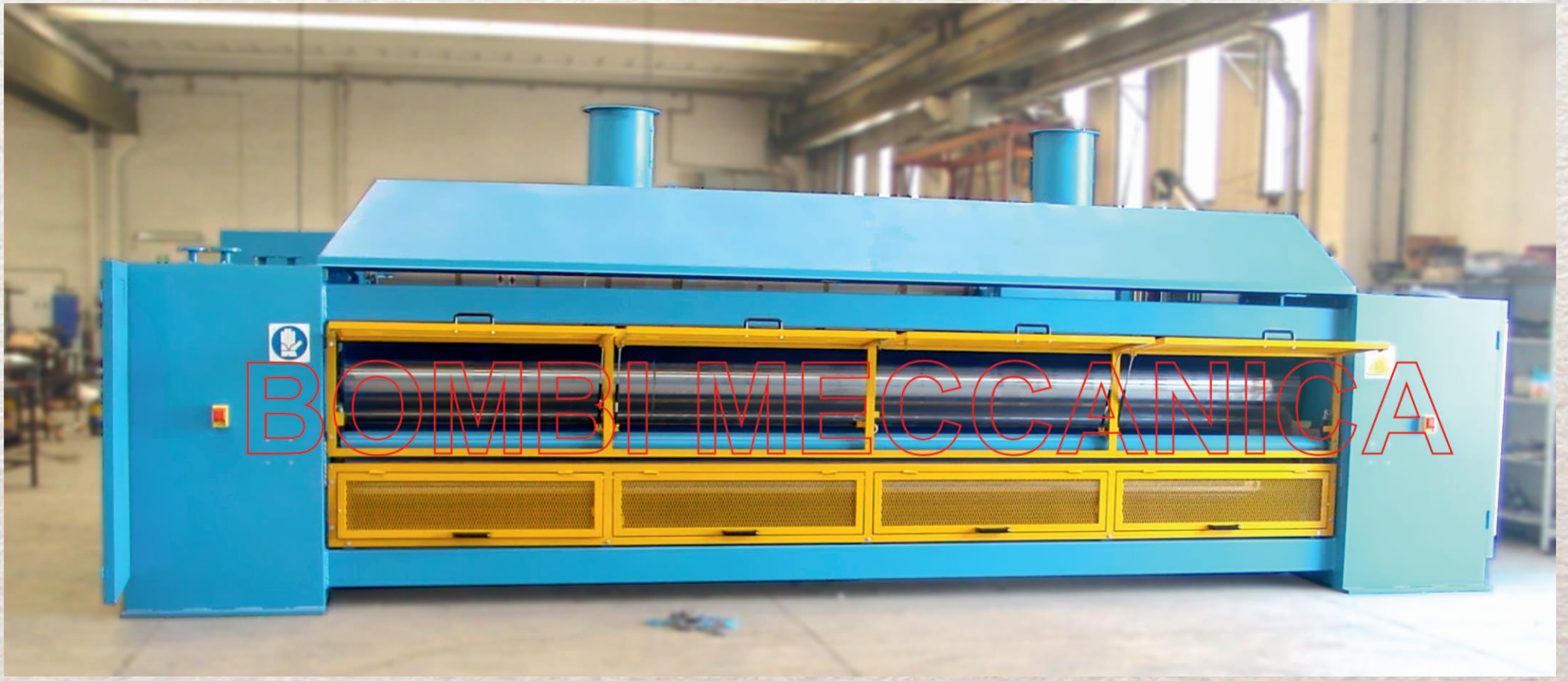
HOT CALANDER FOR FELT

HOT CALANDER FOR FELT

A hot calender is the simplest and most effective solution to transform a standard needled punched felt into a **high technical product**, giving immediate benefit and extra added value. This is achieved **without any modification within the existing line.**
Typically a calender is installed in-line, directly after the last needle-loom, but it can be installed off-line in order to serve more than one producing line (Calender working speeds are faster than a standard felt production line)

In one single step, calenders are able to make an **excellent finishing job to the felt,** with the following advantages:

- Calibrating accurately the product to the required thickness;
- Increasing the mechanical properties, by thermofixing the fibers;
- Reducing the peeling effect;
- Reducing transport costs (up to 60 - 70%), by reducing the roll diameter of the final roll.



HOT CALANDER FOR FELT

NEED HARDNESS? Here the solution.
A special version of rolls is available. Rolls are made with specific steel quality that allow deep hardening, in place of chroming. The hardness arrive till **62 Hrc** and rolls can work in contact each other without being damaged. This is highly indicated for light product and high pressure **(up to 150 t)**. On request machine can be equipped with automatic threading system via chain.

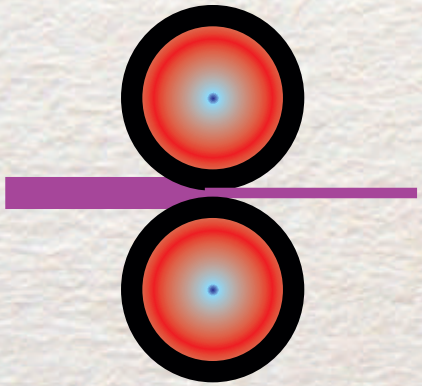
HOT CALANDER FOR FELT

- VERSIONS -

Calenders are produced with 2 or 3 rolls.
The 3 rolls type is the best possible in terms of product and performance as the felt stays in contact longer with the roller surface, also it is pressed and calibrated twice (between rolls 1-2 and 2-3). This type has been chosen by all geo-textile producers.

In both 2 and 3 roller calenders it is possible to pass the felt in an "S" way in order to give the maximum heating time, or in a "straight" or "Direct" way, for standard applications and light webs.

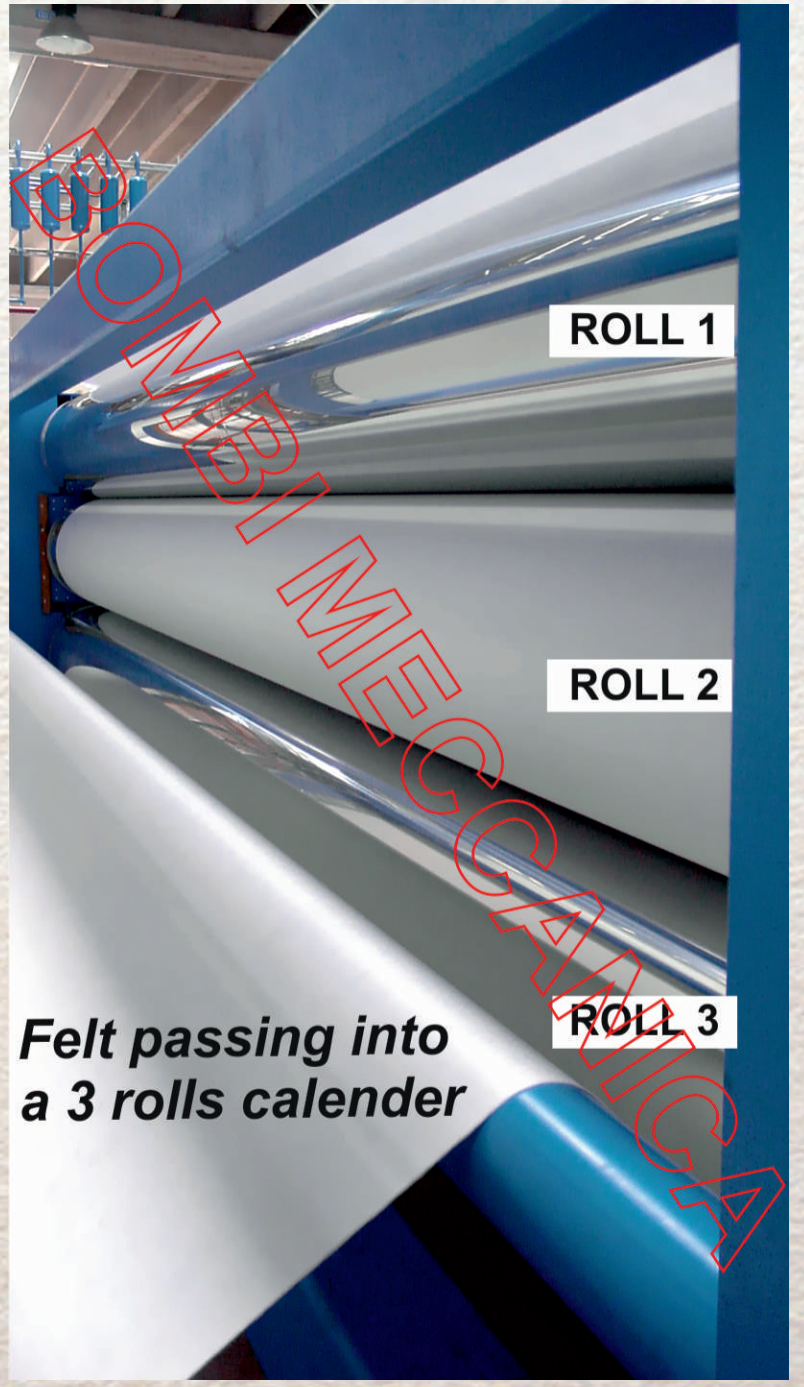
Rolls are made of heavy steel with hard chromed surfaces or hardened and are driven by motors with inverters, accurately synchronized with the line speed. Rolls diameters can be**: 400, 550 , 660, 710, 800mm**, for the standard machines. Larger diameters are available for special applications.



- FELT THICKNESS REGULATION -

The main purpose of a hot calender is to adjust the final thickness of the felt. To do this the calender is equipped on both sides of the rolls with **motor driven screw jacks with encoders**, to set precisely the rolls gap. Setting of the gap is made from the control board, in order to achieve the required felt thickness **during the production.**

Gap djusting is made independently on the left and on the right. With the 3 rolls version, adjustment is independent between rolls 1-2 and 2-3.

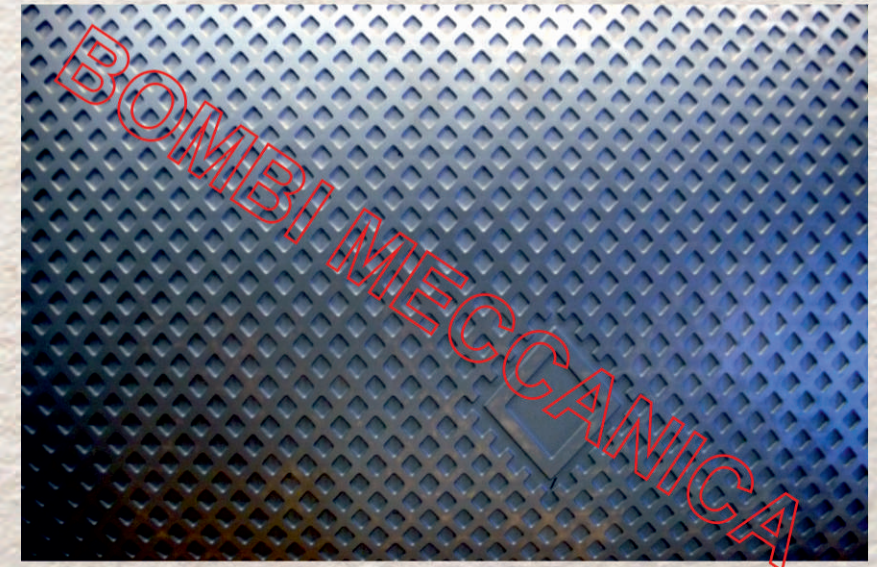


MULTI FUNCTION EMBOSSING CALENDER

Inovative solution to cover a wide range of application in calender finishing of needle punched felt.

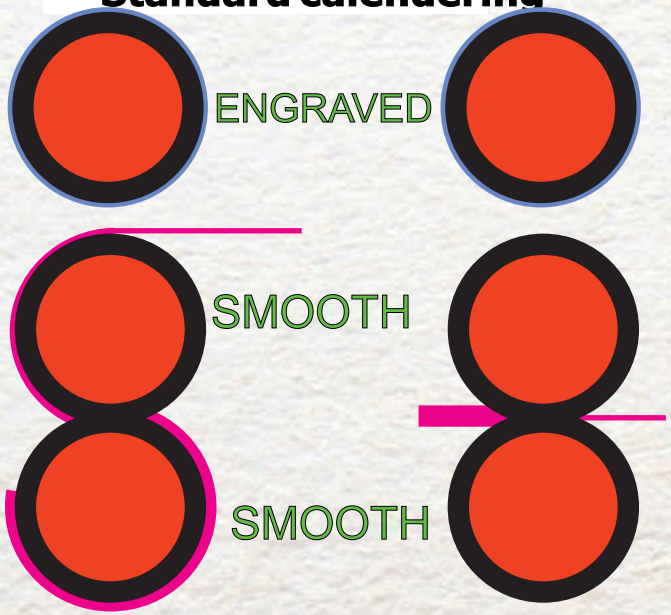
The machine is equipped with **3 rolls = two smooth + one engraved.** The engraving is made accordingly with customer needs.

With this machine is possible **to produce smooth calendred felt,** using the two smooth rolls, or e**mbossed felt using the 3rd engraved felt**. The setting is made from control panel. **Temperatures and rolls gap are individually adjustable in the rolls**

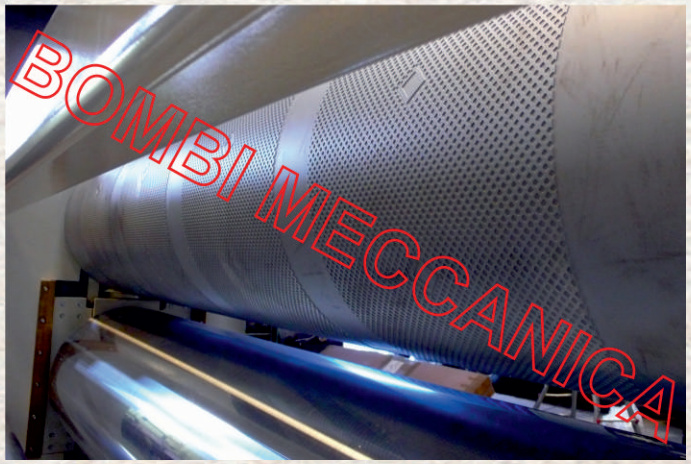


MULTI FUNCTION

Standard calendering

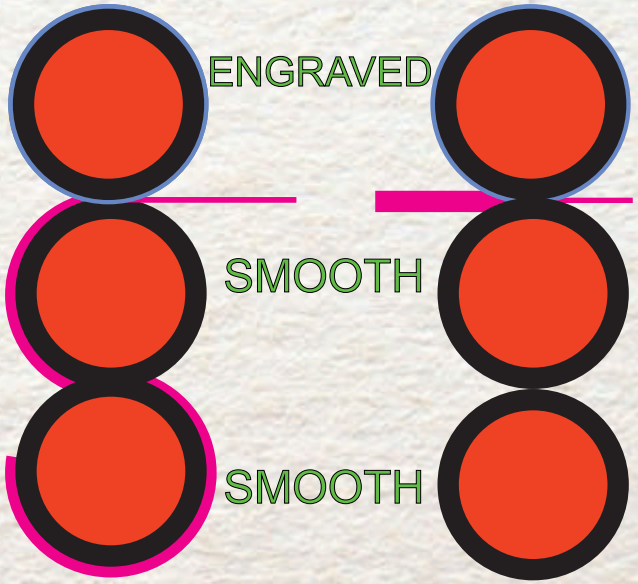


Calendering with direct passing or S passing (for time increasing), without using the embossing roll, that is kept cold and distanced form the web.

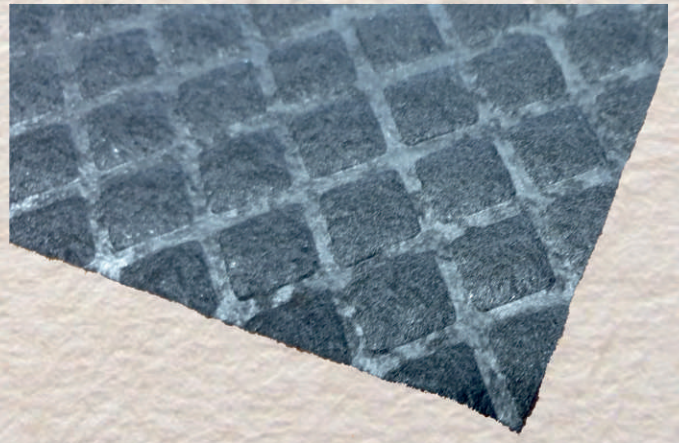


EMBOSSING CALENDER

Felt embossing



Directly felt embossing or felt calendering + embossing with the 3rd roll.



HOT CALANDER FOR FELT

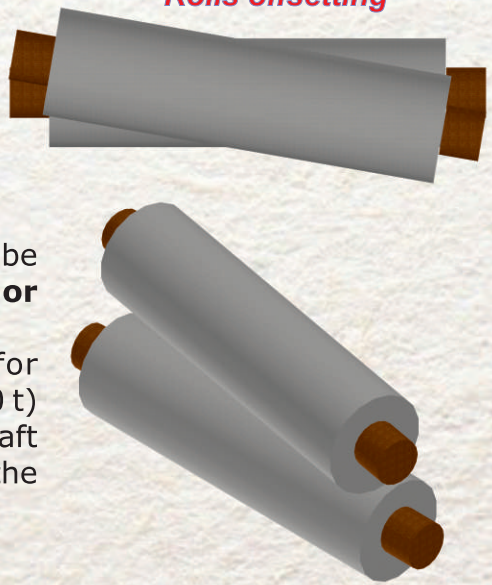
- ROLLS BENDING COMPENSATION -

Under pressure the rolls bend. To avoid variations in the felt thickness (across its width) we build into the calendar, a "**Roll Bending Compensation" system.** This system is based on the cross-rolls effect, offsetting the shafts of the rolls so that the profile of the rolls will then "kiss" each other and the effective deflection is compensated.

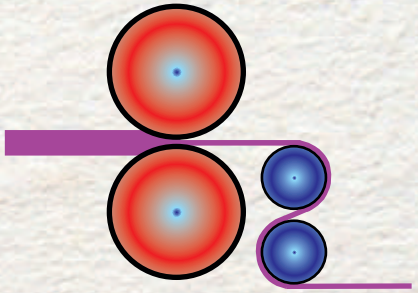
Because the bending is proportional to the effective applied pressure on the felt, the offsetting value is not fixed and can be regulated by the end-user. **Regulation can be manual or electrically driven, with encoder.**

The rolls are parallel, as the use of crowned rolls for compensation, only works for a specific, fixed pressure (like 10 t) and not in the full range of pressure. Using the adjustable shaft off-setting, the machine is ready to operate from 0 to the maximum pressure with minimal effective roller deflection

Rolls offsetting

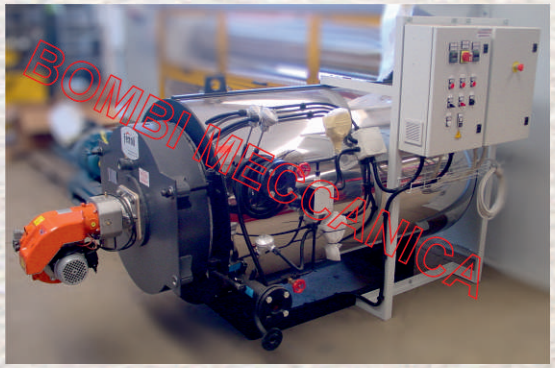


- COOLING ROLLS -



For specific applications, additional cooling rolls are necessary to stabilize the felt just after the hot rolls. They are placed immediately after the hot rolls and the felt passes through them in an "S" contour. Cooling is made by water circulating inside the rolls.

- ROLLS AND OIL HEATING -



Rolls are heated by the forced circulation of hot oil. Internally the rolls are equipped with a specific oil circuit, that accurately distributes the hot oil and provides a uniform real surface temperature across the full working width up to 7 m rolls widths. The special roller shaft oil seals are engineered by us, and allow safe working with low and easy maintenance (no need to disassemble the joint to change the worn element). Oil heating is made externally to the calendar, with a self standing unit. A centrifugal pump ensures good oil circulation inside the heating unit and the rolls. The heating unit can be **fired with gas ,or diesel, or via electric unit.** Electric heaters are controlled with S.S.R. (Solid State Relays), to adjust the temperature uniformly and proportionally. The temperature can be the same in each rolls, or optionally, it is be possible to adjust the temperature independently in each roll.

WE ARE PRODUCERS OF :

- ♦Hot Calenders for felt
- ♦Thermo bonding ovens for non woven
- ♦Continous presses
- ♦Perforated drums ovens
- ♦Foam bonding lines
- ♦Foam generators
- ♦Foam applicators
- ♦Cutting machines
- ♦Pads Stackers

BOMBI MECCANICA

Via della Lora 38,
Barberino del M.llo (FI) ITALY
Tel. ++39 055 8479351, Fax. ++39 055 8416402
Email : tancredi@bombimeccanica.com
Website : http://www.bombimeccanica.com/

SCAN ME