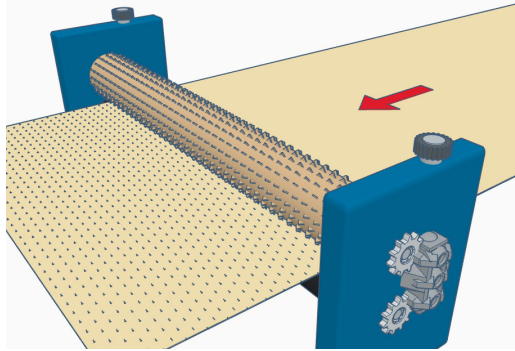


## COLD MICRO PERFORATORS MODEL CNM



**THE CNM MICRO-PERFORATORS** are machines designed to punch **MICRO HOLES** in **MOVING FILM** made of various materials and thicknesses. They have to be inserted into existing machinery such as slitters, extruders, printing machines or bag machines. The **CNM PERFORATORS** are **MOTORIZED MACHINES** with a synchronization system that guarantees perfect micro holes on various materials. These machines occupy little space and are able to make homogeneous holes for numerous applications.

They are suitable for punching micro holes in bags for fruits and vegetables, thermal and acoustic insulation, packaging of electronic products, breathable film, etc.

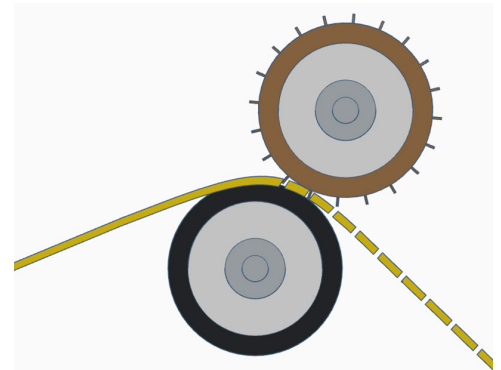
### How it works

The moving film arrives at the device and passes through **THE MOTORIZED NEEDLE SHAFT** and **THE COUNTER ROLLER** which, when approaching, perforate the material. The approach of the rollers takes place through a pneumatic system and the adjustment of perforation is carried out by two micrometric screws.

Our **CNM PERFORATORS** have a **SOFTWARE WITH 4.0 PREDISPOSITION**.

From the electrical control panel, via touch screen, the operator manages all the operations inherent to the machine. The operator interface is designed to be easy to understand, practical and quick to use to facilitate all work phases.

**HOLES OF**  
 $\varnothing 50\mu$  →  $\varnothing 1,8\text{mm}$



### DATA SHEET

<b>Needle roller <math>\varnothing</math></b>	60mm – 100mm – 150mm – 200mm
<b>Needles <math>\varnothing</math></b>	Min. $\varnothing 50\mu$ - Max. $\varnothing 1.8\text{mm}$
<b>Movement</b>	Movement by asynchronous motor 400 V+N+T - 50Hz
<b>Penetration regulation</b>	Micrometric screws with graduated knobs
<b>Maximum working speed</b>	500* meters per minute
<b>Counter roller movement</b>	Pneumatic movement
<b>Air pressure</b>	6 Bar
<b>*</b>	This value depends on the type of material to be processed

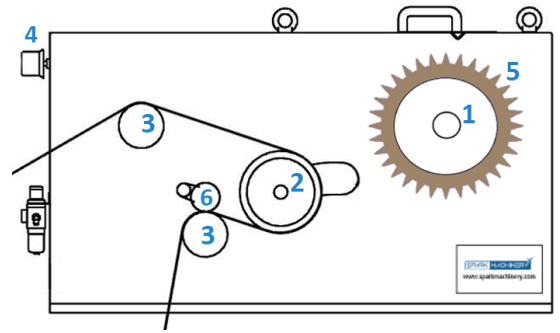
### OPTIONALS

- Trolley on wheels
- Trolley on rails
- Table to change needle sleeves rapidly
- Idler rolls

## TECHNICAL DESCRIPTION AND COMPONENTS

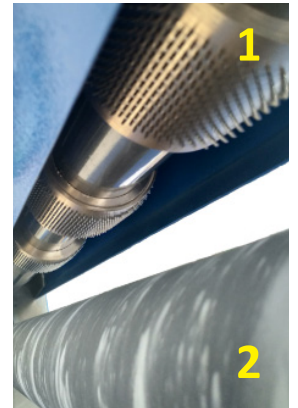
### 1: Needle shaft

It consists of a roller made of **STEEL** on which **INTERCHANGEABLE CYLINDERS (5)** are mounted. The cylinders can be spaced from each other so as to microperforate only some parts of the film or they can be adjacent to perforate the entire surface of the material. It is designed to change cylinders in a quick and easy way when needed.



### 2: Counter roller

It has a **PERFECTLY UNIFORM SURFACE** that allows the homogeneity of the holes made and can consist of rubber or rectified natural bristles or plastic bristles. The counter roller is moved by a **PNEUMATIC SYSTEM**, which allows it to approach or move away from the needle shaft, thus deciding whether to enable or disable punching.



### 3: Idler rolls

As a further guarantee to control the tension of the film to be processed, it is possible to accessorise the device with a **REFERRAL GROUP** consisting of two aluminum idler rolls.

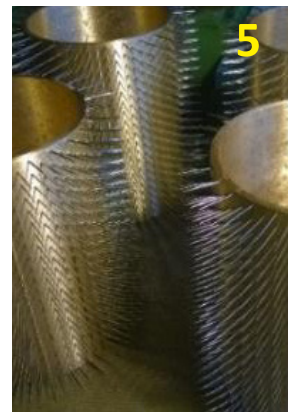


### 4: Micrometric screws

They are used to adjust the distance between the counter roller and the needle roller, so that they create the **PLUNGING ADJUSTMENT SYSTEM**. By adjusting this distance, it is also possible to decide the diameter of the hole to be made. This regulation can be done either with the machine stopped or with the machine running.

### 5: Interchangeable cylinders

They are rollers in bronze, aluminum or nylon with needles fixed and they are mounted on the **NEEDLE SHAFT(1)**. This machine can punch holes with a minimum  $\varnothing$  of  $50\mu$  and a maximum  $\varnothing$  of 1.8mm, while the maximum density of needles per perforation roller is 48 per  $cm^2$ .



### 6: Asynchronous motor with driver and encoder

The motor has a "tracking" function that allows the needle shaft to synchronize the rotation to the film sliding speed and therefore to the speed of the production line. Consequently, **THE MATERIAL DOES NOT STRETCH** and holes are always precise and homogeneous, even with a high needle density.

## MATERIALS PROCESSED BY CN PERFORATORS

PE - LDPE - HDPE - LAMINATED - FOOD PVC - ALUMINIUM - PAPER



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