



MACHINE TO STRETCH TO A SET LENGTH HEAT TREATED HEATING ELEMENTS



WATCH THE VIDEO

It is well known that the rolled elements have variations in length that can reach even 2% depending on the filling process.

Recovering difference in length allows a correct distribution of the dimensional tolerances in the heating elements and helps the production process.

The stretching machine represents a perfect solution to recover difference in length of heating elements.

This machinery has a simple construction and requires limited maintenance, while straightness of the heating element is improved after the stretching operation.

The stretch-to-length machine can accommodate both large and medium production batches. It is a multi-diameter solution and is designed to process heat treated elements.



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ADVANTAGES

The advantages can be summarised as follows:

- the machine is simplified and requires less maintenance
- the straightness of the heating element is improved after the stretching operation
- multi diameter
- possibility of changing diameter in a short time
- Quick set up
- additional operations (such as pin cropping) can be accommodated into the machine

Through an electric selector and referring to a millimetre scale, the operator prepares the machine to the required final length for a new batch of heating elements.

By replacing the holding clamps, the operator can set up the machine for a new diameter of heating element.

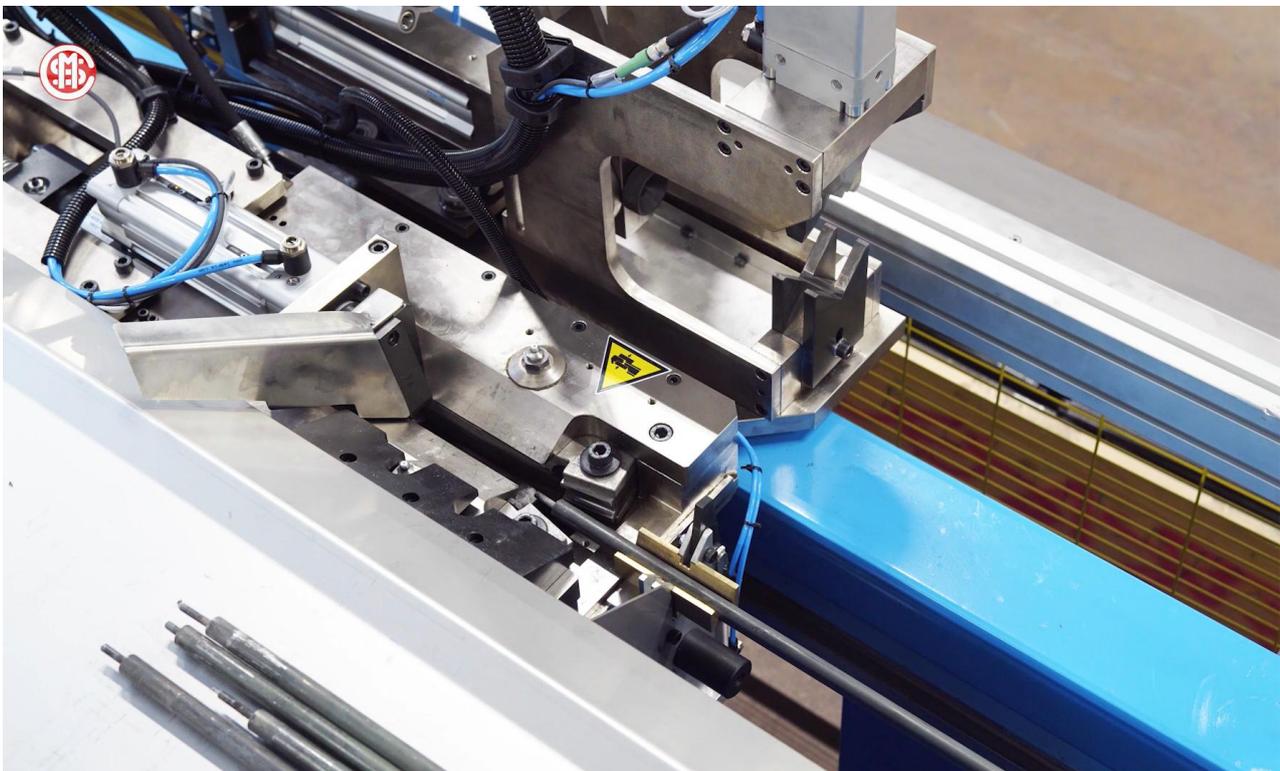


Figure 1: Stretching + Cropping of terminal pins to length Mod. 110/95



MACHINE COMPOSITION

The stretching machine is made up of:

- Welded and painted steel frame for the working units
- 2 hydraulically moved units to stretch the heating elements

The set up when changing diameter is carried out by replacing the two pairs of jaws located on the stretching clamp

- Motorization for the set up of the stretching units depending on the final required length

The set up is done turning an appropriate electric selector. The two stretching units move symmetrically with reference to the axis of the machine. For the set up the operator refers to a millimetre scale

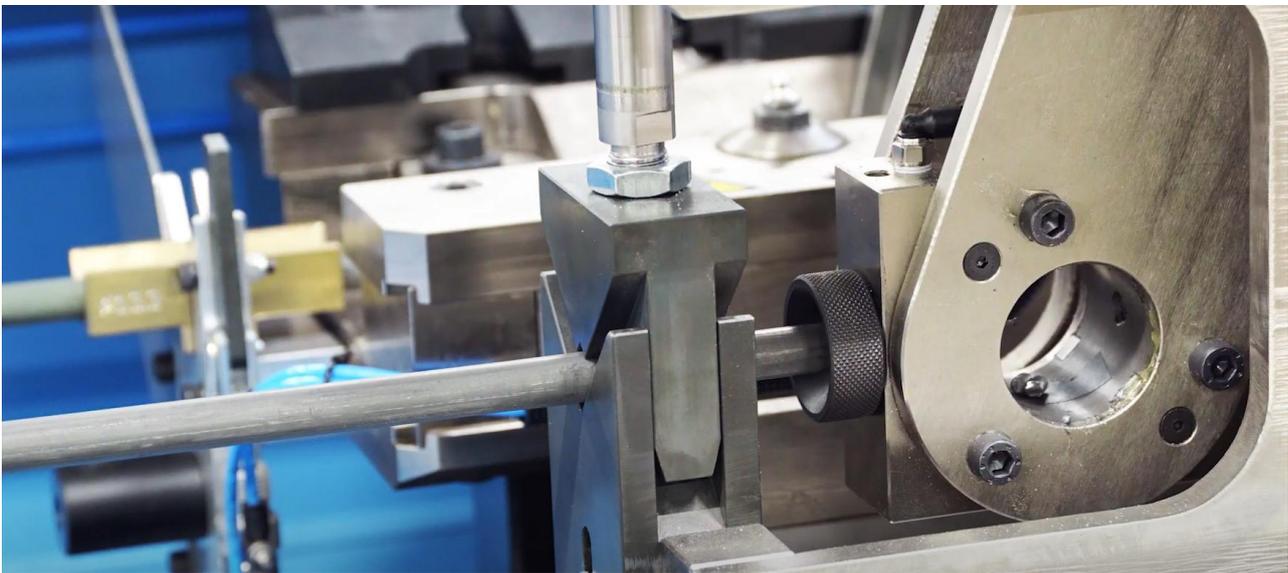
- A variable number of pneumatic clamps to hold the elements to be stretched
- Electropneumatic device to unload the elements after the stretching cycle
- Additional station (NOT INCLUDED). It is possible to add **one only** additional station to do in automatic an additional operation that can be added to the machine, such as any of the operations shown below:
 - Electrical tests. Instrument to measure the ohmic value (mod. 232/00), instrument to measure dielectric strength (Mod. 232/10) and pair of pneumatically moved contacts are included
 - Cropping to length of terminal pins, by means of two electropneumatic units complete with holding clamps
 - Cleaning of terminal pins, by means of electropneumatic units with rotating mandrel and appropriate tooling
 - Electropneumatic devices to unload the element from the additional station

TECHNICAL CHARACTERISTICS

Heating element length	mm	400-7000
Heating element diameter	mm	6.0-12.5 6.0-16
Initial length difference	%	±1.5
Length difference after stretching	mm	±1
Power supply	V	to be defined
Pneumatic supply	Bar	6
Installed power on hydraulic plant	KW	7.5
Total installed power	KW	8.5
Set up time when changing elements length	min.	2-3
Set up time when changing elements diameter	min.	3-5
Diameter of terminal pins	mm	2.5-3.5
Cutting length	mm	10-18
Range of ohmic values	ohm	1.00-99.9
Test precision	%	±1
Voltage of dielectric strength test	V	0-3000
Time for dielectric strength test	sec	1
Maximum supported current	mA	5

**AVAILABLE VERSIONS**

Diameter 6.0 – 12.5 mm	
Mod 110/98.X00000	Stretching only
Mod 110/95.X00000	stretching + cropping of terminal pins to length
Mod 110/97.X00000	stretching + electrical tests
Diameter 6.0 – 16 mm	
Mod 110/16.X00000	Stretching only
Mod 110/18.X00000	stretching + cropping of terminal pins to length
Mod 110/17.X00000	stretching + electrical tests

**Figure 2:** Cropping of terminal pins to length**OPTIONS**

Mod. 161/10.00000	Set of additional parts for 2nd diameter of heating element
Mod. A000604606	Set of spare parts for terminal pin cutting length from 16 to 27 mm