



MACHINE TO RECOVER THE DIFFERENCE IN LENGTH OF HEATING ELEMENTS AT THE EXIT OF THE ROLL REDUCING MILL



WATCH THE VIDEO

For an easier manufacturing and for a correct distribution of the tolerances on the heating element length during bending it is important to have heating elements, where possible, with the same length.

It is well known that elements exit from the roll reducing mill with length variations of up to $\pm 1-2\%$, depending on the filling machine.

We have therefore designed and manufactured this machine with the aim "to recover this difference".

Once in line with the roll reducing mill, this machine processes the heating elements all to the same length without additional labour costs or loss in production.



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MACHINE FUNCTIONS

The function of the machine can be summarised as follows:

- Measure the exact length of the heating element **tube** at the exit of the roll reducing mill
- Roll the heating element of the difference compared to a set value. This elongation is achieved by a second diameter reduction.

This second diameter reduction may be carried out on the whole heating element length except for a programmable initial or final section.

MACHINE COMPOSITION

The roll to length machine is made up of:

- First electronic measuring device, with encoder, to measure the tube length at the exit of the roll reducing mill. Automatic calculation and storage of the length difference compared to the set value (**Final required length**).
- Device to transfer heating elements from the exit of the first measuring station to the machines.
- Second electronic measuring device with encoder, to measure the heating element length as it enters the machine for the second diameter reduction.
- Group for the second diameter reduction, formed by 2 pairs of motorised rolls.
The upper rolls lower with an hydraulic movement for the 2nd diameter reduction (of 0.1 mm.) for a length elongation which is equal to the difference between the real heating element length (measured by the 1st encoder at the exit of the roll reducing mill), and the final set length.
- Third electronic measuring device with encoder to measure the element length after the second diameter reduction and storage of the value to select the heating elements that have not reached the set length.
- Straightening group with non motorised rolls.
- Unit to remove heating elements at the end of the cycle.

The presence of the plastic plugs on both ends of the heating element does not affect the accuracy of tube length measurement, provided that their diameter after the diameter reduction is max. 0.3 - 0.4 mm larger than the heating element diameter.

Larger diameters could affect the final tolerance on the heating element.

The machine has a main electronic board with PC, complete with keyboard.

**TECHNICAL CHARACTERISTICS**

Minimum heating element length	mm	to be defined
Maximum heating element length	mm	to be defined
Heating element diameter (to be defined)	mm	6-12
Advancement speed	mt/min.	20
Diameter reduction	mm	0.1
Power supply	V	to be defined
Hydraulic pressure	Ate	150
Heating element final tolerance	mm	±1-1.5

AVAILABLE VERSIONS

Maximum element length		Minimum element length 450 mm	Minimum element length 350 mm
	1.250 mm	Mod. 141/50.100000	Mod. 141/51.100000
	2.500 mm	Mod. 141/50.200000	Mod. 141/51.200000
	3.000 mm	Mod. 141/50.250000	Mod. 141/51.250000
	3.600 mm	Mod. 141/50.300000	Mod. 141/51.300000
	5.000 mm	Mod. 141/50.400000	Mod. 141/51.400000
	6.000 mm	Mod. 141/50.500000	Mod. 141/51.500000

