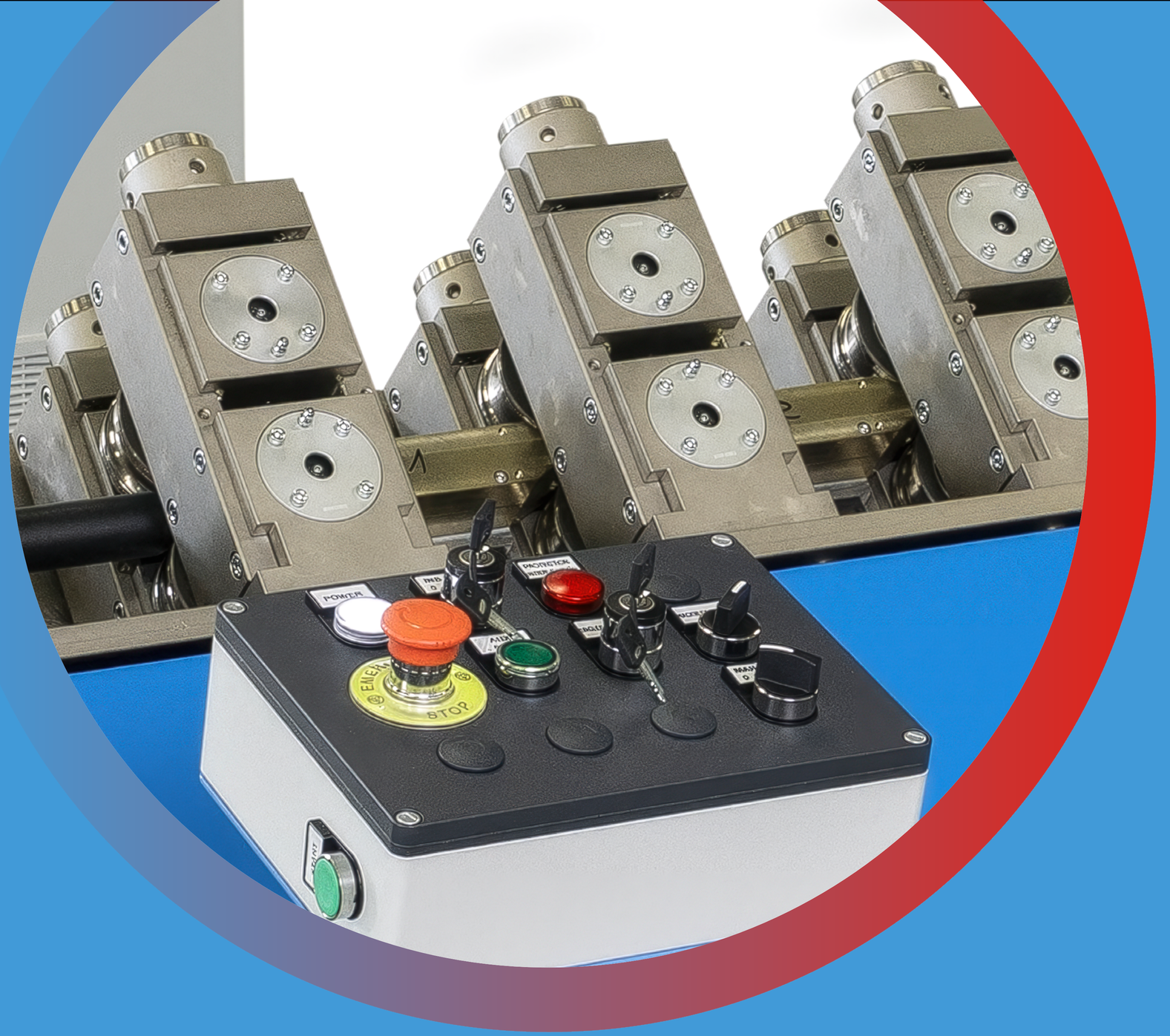
CSM MACHINERY

OAKLEY
INDUSTRIAL MACHINERY

Reshaping Roll Reducing Mill

Rolling mill for reshaping tubes and electric heating elements from circular cross-section to complex profiles.



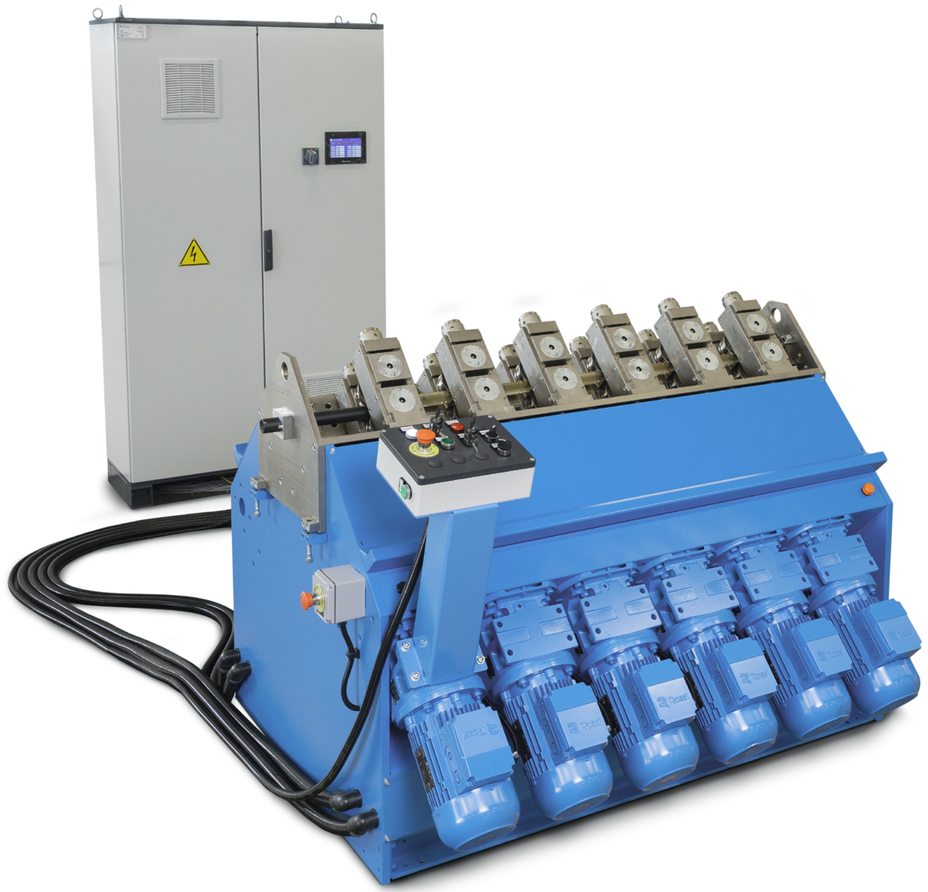
Machine composition

- Complete base frame with 12-station gear motors
- Transmission shafts
- Head with steel rollers
- Guide bushing
- Control panel (HMI)

The reshaping rolling mill produces **complex profiles starting from tubes and standard circular-section heating elements.** The tube is fed into the mill through the guide bushing, which ensures precise, straight-line entry.

The elemtn then passes through pairs of **special steel rollers**, designed with the correct forming ratio: this gives the tube the desired final geometric profile, ensuring uniformity along its entire length and no edge deformation.

The head with steel rollers can be replaced in about 30 minutes, allowing **different geometries to be achieved with the same machine.** The entire process is managed through a control panel that enables easy, immediate management of machining parameters, while the base frame, complete with 12-station gear motors, ensures the same structural strength and reliability as standard CSM rolling mills.



Technical characteristics

Material of tube to be reduced	Stainless steel, copper
Min. length of heating element	250* mm (9.84″)
Tolerance on heating element diameter after diameter reduction (new rolls)	±0.05 mm (0.001″)
Rolling axis height from base	915 mm (36.02″)
Power supply	V to be defined
Dimensions • 12 station roll reducing mill weight 1800 kg	 1670×1700xH1130 mm (66×67xH44″)
Reduction in the area of the section (up to)	35% (12-station roll reducing mill)

* When the roll reducing mill is equipped with a marking device or with a marking device + lubricating system with a spray nozzle, the minimal length increases as follows:

- minimal length of the heating element if the roll reducing mill is equipped with a marking device: 350 mm (14″)
- minimal length of the heating element if the roll reducing mill is equipped with the marking device and the lubricating system with the spray nozzles: 420 mm (16.5″)

NOTES

The minimum safety distance between tubes should be **one third of the element length,** in order to make place for elongation. If this is not respected, a failure may occur which may result in bent shafts, cracked bearings or cracked rolls (carbide rolls).
The capacity (elements per hour) can be estimated to: rolling speed / (element length + safety distance).
For example the rolling mill mod. 140/08.A40000 has a rolling speed of 20 m (65.6′)/min.
When rolling 1000 mm (39″) long elements and keeping 333 mm (13″) safety distance, the capacity is 20 m/min / 1,333 m = 15 elements/ minute = 900 elements per hour.

Layout