

ALO 191-MST-3

Induction tooth hardening and tempering with mechanical straightening of carbon band saw blades



HIGHLIGHTS:

- High efficiency and low energy consumption generator with air-cooled oscillator tube.
- Automatic flash guard protect the system against damage from flash-overs.
- Band feeder with a pulling 4-wheel drive system designed for accurate speed and guiding.
- Electromagnetic brake for optimal control of band tension.
- High reproducibility due to accurate digital/analogue settings of power, speed and work coils.
- Fast and easy start up and change over.

THE SYSTEM COMPRISES:

Hardening and tempering generators
 Hardening and tempering inductors
 Band feed unit
 Closed coolant system
 Closed quench system
 Mechanical straightening device

CAPACITY:

Band width 6 - 38 mm
 Band thickness 0.4 - 1.3 mm
 Tooth pitch 3 - 32 tpi
 Capacity: 5-15 m/min
 Hardening generator frequency: 27 MHz.
 Tempering generator frequency: 1.5 MHz.

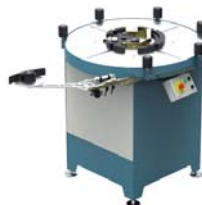
OPTIONS / ACCESSORIES:



ALO 90915/16/17/18
Collapsible coil center



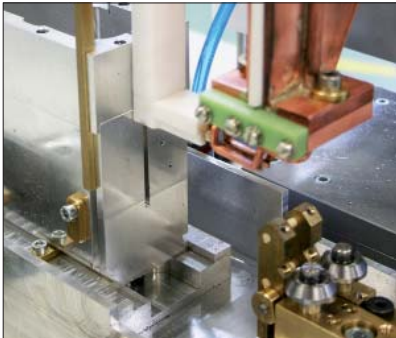
ALO 831
Double coiler



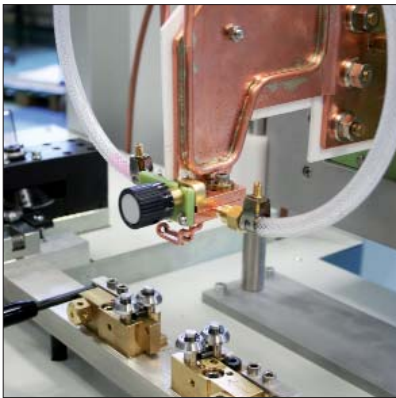
ALO 880
Electric coiler



ALO 106 CUBE
Coil handling system



Tooth hardening inductor



Tempering inductor



Pinch roller straightening unit

MACHINE DESCRIPTION

Band feeder

The band feeder consists of two units, one 4-wheel feed unit, the other as an adjustable brake to control the band tension by using an electro magnetic friction brake. Both units are equipped with two pairs of inclined rolls. The four rolls on the feed unit are driven by a servo motor, and the speed is controlled by a servo controller. The oscillating circuit with the inductor is located between the brake and the feed units such that the band is pulled through the inductor at a controlled tension.

Generator

The generators are enclosed in separate aluminium cabinets, equipped with separate oscillating circuits connected to the cabinets via coaxial cables. The generators are air cooled, thus limiting the cooling water requirements to inductors only. The generators are equipped with a chopper for infinitely variable control of the output power.

Inductors

The inductors are made of copper tubing and can be custom made for different pitches and band gauges. The inductors are interchangeable and can easily be replaced from one type to another.

Quench system

The system is designed for liquid quenching, such as oil or polymer medium.

Mechanical pinch roller straightening unit

The straightening device consists of a pair of rolls situated after the quench tank. The rolls are driven synchronized with the band feed unit and are adjusted in height for different band with a gear actuator. The pinch force is controlled by pneumatic cylinders. Adjustments are made via the HMI and settings are possible to save in blade recipe(s).

TECHNICAL SPECIFICATION:

Band width:	6 - 38 mm	(other widths on request)
Band thickness:	0.4 - 1.3 mm	
Tooth pitch:	3 - 32 TPI	
Capacity:	5 - 15 m/min	
Air pressure:	6.3 bar	
Standard voltage:	400VAC \pm 10% 3-phase, 50-60 Hz \pm 1% directly earthed system,	other voltages available upon request.

Power consumption (at max output power): 24 kVA

Other customer requirements may be discussed between customer and ALO.

