

Vertical induction compact hardening installation. TVR

TVR compact installations are the main tool for all industries that need to harden by induction pieces with high quality levels, in small or medium series, with frequent changes and with a reduced investment.

All the necessary elements for the induction hardening are integrated on a platform of 2.5 m²: generator, vertical hardening machine equipped with CNC and closed circuit cooling equipment for generator and hardening liquid

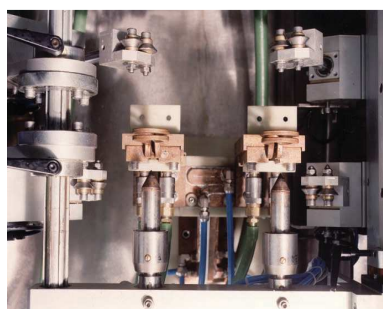
The installation incorporates Transithermic Generator that, moreover of its high efficiency, allows the coupling with several types of inductors.

Pieces can be hardened by quenching or by immersion by means of vertical displacement along the inductor. The displacement is performed by means of ball spindle and screw driven by a brushless motor.

The piece position, displacement speeds and power are programmed easily from the CNC.



Heating detail



*Double point and lunettes
(straightener) options*



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Standard characteristics:

- Transistor Generators of 50-200 KW of power, working at frequencies of: 5-20 KHz, 20-100 KHz and 100-500 KHz.
- Maximum length of pieces to be treated: 580 or 880 mm. Maximum diameter: 350 mm; Maximum weight: 40 Kg
- Maximum stroke of vertical displacement 540 mm. or 840 mm.
- Adjustable displacement speed from 0 to 10.000 mm/min.
- Process programming from CNC.
- Cooling equipment in closed circuit for generator and hardening liquid with stainless steel heat exchangers and tank.

Options:

- Double point for simultaneous hardening of two pieces.
- Pneumatic upper point.
- Upper point electrical displacement.
- Adjustable rotation speed.
- Protecting door pneumatically driven.
- Automatically maintenance of hardening liquid temperature.
- Manual or electrical adjusting table to adjust the inductor position

