

*I*NNOVATIVE *T*ECHNISCHE *G*ESAMTLÖSUNGEN

# Vertical hardening machine



**AT FIRST SIGHT SOMETHING SPECIAL – EVEN MORE AT SECOND!**

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With the vertical hardening machine ITG Induktionsanlagen GmbH offers you a modular hardening system to comply with nearly all wishes, beginning with a basic version and, with numerous add ons reaching to the fully automated machine. In the basic version a free-programmable control, brand Siemens, is as well included, as the re-cooling unit for cooling water and emulsion, an automatically opening door and the necessary converter with a power of 80 kW and a frequency of 10 kHz as the powersupply (incl. transformer or resonant circuit).

**Based on this, the hardening machine meets all the wishes**

- √ user friendly control system, operated by a PLC
- √ Compact design for quick setup
- √ Wide range of power and frequency available for best hardening results
- √ Monitoring of power, heating and quenching time, axis position and rotation speed
- √ Pneumatic upper spike
- √ Compound slide (2 horizontal levels) for the matching transformer, electromechanically movable
- √ Rotary plate, bezel, workpiece sensor, double spindle version etc.  
as a special construction integrable
- √ complete with emulsions - and cooling water equipment
- √ Automatically operated loading doors

**Technical specifications**

- |  |   |
|--|---|
| ▶ Workpiece length   | max. 1.000 mm (oversize possible/ spezial equipment)                  |
| ▶ Workpiece diameter                                       | max. 250 mm (larger diameters available / spezial equipment)          |
| ▶ Workpiece weight<br>- to lower peak<br>- on rotary plate | max. 150 kg<br>max. 10 kg pro Position (spezial equipment)            |
| ▶ Heating length   | max. 950 mm (oversize possible / spezial equipment)                   |
| ▶ Workpiece load-/ unloading                               | manually (automatic load/unloading possible / spezial equipment)      |
| ▶ Feed speed   | 0 (stand still) and 5 – 60 mm/sek.                                    |
| ▶ Rapid traverse   | max. 150 mm/sek.  |
| ▶ Rotation speed   | 0,20 – 200 min <sup>-1</sup> (servo axis possible/ spezial equipment) |
| ▶ Rotary plate   | Basisversion mit 4 Stations (spezial equipment)                       |
| ▶ Hardness programme memory                                | up to 200 programs with a total of 40 steps, extension possible       |
| ▶ power range  | of 20 – 250 kW  |
| ▶ Frequency range  | of 1 – 100 kHz  |