



Type	Vertical hardening machine
Number of hardening stations	1, 2 or 3 stations Alternative: indexing table module
Positioning of inductors	NC drive
Feed speed	Up to 600 mm/s
Adjustment of tailstock	NC drive
Rotary drive of component	Optional: NC drive
Rotation speed	0-250 rpm
Standard MF output	50-450 kW
Control system	Siemens 840D-SL Siemens S7-15xx PLC
NC servo technology	Siemens Sinamics S120/CU320 Siemens Sinamics S210
HMI	Siemens IPC427E/OP15-Black Siemens IPC477E
Manual controller	Siemens MPP483/MCP483/KP8
Process monitoring	Inverter central supply unit with monitoring in PLC or EME2020
Monitoring of quenching medium	Volume control with pump drive Flow monitoring with PLC or EME2020
Safety technology	Pilz safety relay or Siemens – Safety Integrated ET200SP/Profisafe
Spray protection enclosure	Encapsulated
Steam extraction	Integrated, centralised or decentralised, optionally with air filter
Condensate recovery	Integrated
Dimensions (L × W × H) (incl. auxiliary unit)	6,000 × 5,200 × 3,250 mm
Total height	3,250 mm

Options

- › Tempering via residual heat (depending on component)
- › Process monitoring and data capture (EME)
- › Connection to automatic part handling systems
- › Water-to-water or water-to-air chiller
- › Inductor recognition
- › Inductor database
- › Interfaces for data transfer
- › Inductor retracting device as NC axis
- › Detection system (e.g. for DMC)
- › Monitoring of quenching water quantity via EME
- › Maintenance reminder in machine control system
- › Monitoring of hardening result (lab equipment)

Component handling

Loading	From front
Unloading	From front
Loading height	1,100 mm
Loading/unloading	Manual/robot
Workpiece fixing	Pneumatic

Applications

Max. length	1,000 mm
Max. hardening diameter	100 mm
Max. workpiece diameter	300 mm
Max. weight	15 kg or by request
Machining position	Vertical
Clamping technique	Between centres
Hardening process	Scan hardening/single shot