



eldec Midi-MIND: compact hardening systems

The Midi-MIND offers a high degree of precision and reliability at comparably low investment costs. Simple heat treatment tasks with a maximum power requirement of 30 kW at high frequency (HF) or 100 kW at medium frequency (MF) applications can be processed with the Midi-MIND. Energy source, cooling system and process cell are combined on a single machine base to save space. The Midi-MIND is fitted with an X, Y and Z axis for positioning the inductor versus the workpiece, a main spindle drive for workpiece rotation, as well as a temperature and thus flow-controlled spray for the quenching medium. A tail-stock module with centring pin enables secure clamping of workpieces between

the centring points. Loading of the unit can be performed either manually or automatically within the process chain with the aid of a loading module. In combination with a 180° adapter plate this can also be carried out in parallel with heat treatment.

Key Facts:

- small footprint
2.3 x 0.8 x 2.5 m (L x W x H)
- max. work piece lengths:
250 mm, respectively 1000 mm
- max. work piece diameter: 350 mm
- max. power class:
30 kW HF / 100 kW MF
- low investment costs
- short delivery and commissioning time

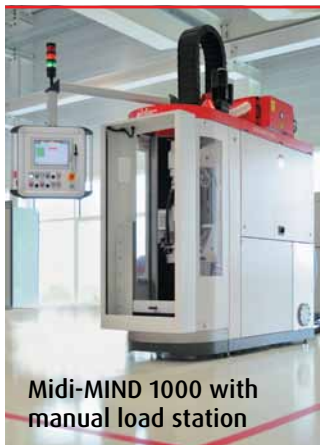


Glowing Innovations.

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Midi-MIND 1000 with manual load station



Midi-MIND 250



Building and Technical Data

The machine base consists of solid welded subassemblies including a fix mounted column for the Z-axis guide ways. Standard equipment: Swivel mounted operator panel, quench flow metering system, temperature control of quench medium, connection port for quench head(s), one connection port inductor mounting plate, variable frequency driven pumps

Process Cabin	250	1000
Axis travel, feed rates, workpiece dimensions		
X (manuell)		10 mm
Y (servo/manuell)		50 mm
Z (servo)	430 mm	1145 mm
$v_{max} Y/Z$		5 / 12 m/min
$a_{max} Y/Z$		5 / 5 m/s ²
Maximum workpiece diameter		350 mm
Maximum workpiece length	285 mm	1000* mm
		*work table adjustable in height
Maximum workpiece weight	10 kg	
Control	SPS - Mitsubishi System Q	
Main spindle drive (optional)		
Maximum RPM	600 1/min	
Maximum Power	(at 100% ED) 0,5 kW	
Automatic workpiece changer (optional)		
blade angle	180°	
Index time	1-2 s (je nach Werkstückmasse)	
Number of stations	2-fach	
Workpiece receptors	auf Anfrage	
Workstation drive	600 1/min	
Manual tailstock (optional)	quill travel 40 mm (pneumatic)	

Further modules and options

- Exhaust filter systems
- Tele-service
- Hand load station with light curtain
- Cooling system, active
- Process data recorder
- Pyrometer
- Workholding
- Twindrive workstation

Building, Properties and Technical Data of the Energy Sources for Midi-MIND

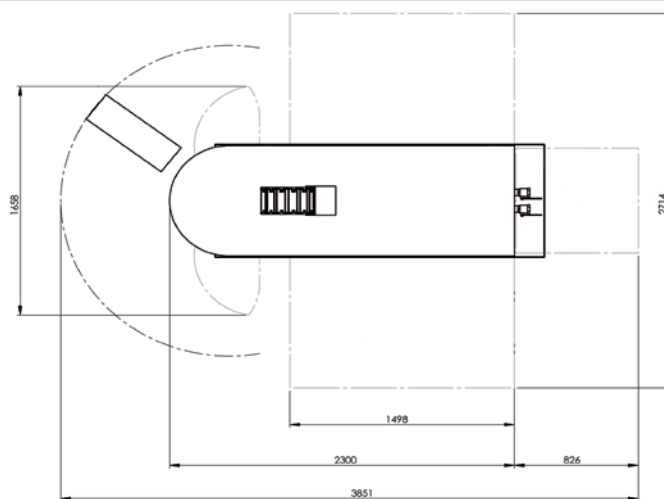
MF (Medium Frequency):

Typical heating depths:
Approx. 1.5 mm – 5.5 mm
Frequency: 8 kHz – 40 kHz
(2 kHz – 5 kHz on request)
Power: 1.5 kW – 100 kW

HF (High Frequency):

Typical heating depths:
approx. 0.2 mm – 2.5 mm
Frequency: 80 kHz – 450 kHz
Power: 1.5 kW – 30 kW

Machine Layout



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