

Magnetic field device MGFE-70

The new device generates strong and precisely controlled magnetic fields in magnetic field cables, for the controlled magnetization or demagnetization of steel parts. By using a microprocessor based control and power electronics, precisely adjustable and reproducible magnetic field sequences are made possible.

Technical data:

- Supply: 3x380...480VAC 50/60Hz, 16A..32A (at 16A reduced power)
- Output tension: ~400VAC
- Dimensions WxHxL: ~680x530x380mm
- Weight: ~23kg (without power cable and magnetic field cables)
- Mobility: Rollable case with pull-out handle

Technological function demagnetization:

- Low frequency sine pulse demagnetization $\leq 1\text{Hz}$ for high penetration depth
- Progressive frequency sine pulse
- Pulse length between 1s and 30s, depending on needed application
- Setting of all relevant process parameters (amplitude, pulse duration, rate of field increase and decrease etc.)
- Further technological field control functions for special applications

Technological function DC magnetization:

- Adjusting the amplitude and duration of the DC sequence
- Setting options: DC sequence of constant amplitude; DC sequence of variable amplitude

Repeatability of current profile: better than 99.5% (at 50% of the maximum current)

Magnetic field cables:

- Different conductor cross sections and lengths (compromise weight handling/heating):
 - Magnetic field cable EK-M-17: \varnothing cable 14mm, weight ~6kg, length 17m
 - Magnetic field cable EK-L-15: \varnothing cable 16mm, weight ~10kg, length 15m
 - Connection adapter EKK-ML
- Maximum theoretical field strength with 4x EK-L-15 and winding diameter 500mm: approx. 90kA/m (30'000AW). (by a factor 1,5 lower, when using function magnetization)
- Use of shielded magnetic field cables with electrical protection function (in case of cable jacket damage)
- Extension of magnetic field cables by coupling

Typical application fields:

- NDT (MT, ET)
- Rotating equipment
- Mechanical engineering, tool manufacturing
- Steel industry, supply parts
- Welding
- R&D

