HB

ELECTRO PERMANENT MAGNETIC MODULES

LIFTING OF SLABS & BILLETS
SAFETY FACTOR 3

HB elektro permanent magnet modules are specially designed to deal with large air gaps. This makes them particularly well suited for lifting slabs and billets.

Models and sizes on request

HC

ELECTRO PERMANENT MAGNETIC MODULES

LIFTING OF COILS
SAFETY FACTOR 3

Complete range of electro-permanent magnet modules specially designed for fast and safe manipulation of coils with horizontal (HC/H) or vertical eye (HC/V). The coil material is not compressed and damaged, which is the case when using traditional coil grippers. Because the coils can be stored next to each other, space can be saved up to 30%. The electronic control unit is provided with an interface and can be integrated into an automatic process.

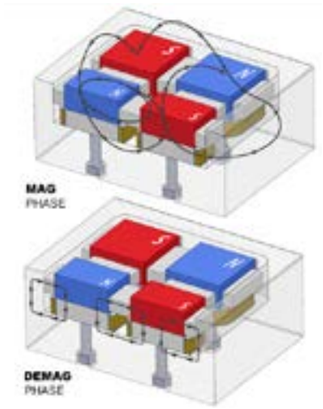
HC/H: LIFTING OF HORIZONTAL COILS

HC/V: LIFTING OF VERTICAL COILS

Models and sizes on request

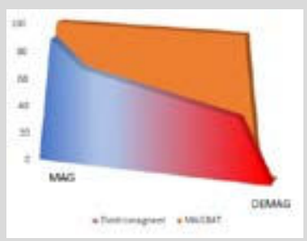
ELECTRO PERMANENT MAGNETIC TECHNOLOGY

FOR QUICK AND SAFE HANDLING OF STEEL PLATES AND -STRIPS



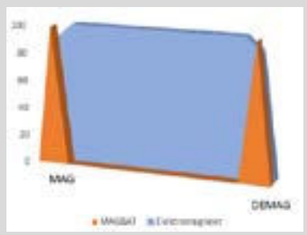
TECHNOLOGY

MAGBAT-Electro Permanent Magnets (EPM) offer 95% energy savings and superior safety compared to traditional electromagnets. They require power only during MAG and DEMAG phases, operating without power supply. The technology features an electro permanent magnetic circuit with alternating N/S poles, following the chessboard principle, in a magnetically neutral frame. Each pole includes a steel core surrounded by fixed polarity magnets (Neodymium). Beneath the steel core, a magnet with reversible polarity (AlNiCo) is surrounded by an electric coil. A short current pulse through the coil enables the magnetic field to move in and out of the system.



CONSTANT POWER

Because no continuous current flows through the electric coils, electro permanent magnets do not heat up and the force remains constant. This contrasts with electromagnets that require continuous current and heat up, resulting in a loss of power.



95% LOWER ENERGY CONSUMPTION

MAGBAT electro permanent magnets use electrical current for only a few seconds to reverse the polarity of the magnetic poles. This contrasts with electromagnets that continuously consume electrical power during the entire lifting process.

ADVANTAGES

- 100% safe. EPM only need electricity while activating or deactivating the magnet. The effective force is developed by permanent magnets.
- Predictable and constant force.
- More than 95% electricity savings compared to conventional electromagnets.
- No backup batteries required. The magnetic force remains in the event of a power failure.
- No heating of the magnet, longer life of the electric coils.
- No residual magnetism in the material.
- No interference with electronic environmental periphery.
- No moving parts, Low maintenance costs

9 SAFETY FUNCTIONS

ELECTRO PERMANENT MAGNETIC TECHNOLOGY
The electric current is only used to invert the magnetic field, while the effective force is generated by permanent magnets. In the event of a power failure, the magnetic force remains permanently present = 100% safe

PICK-UP CYCLE
Lifting is done in 2 phases, whereby the workpiece is first lifted at a lower preset force, immediately followed by FULLMAG (100% of the total force)

PICK-UP Very thin	Generated force 17%
PICK-UP Medium/thin	Generated force 25%
PICK-UP Medium/large	Generated force 35%
PICK-UP Large	Generated force 55%
FULL - MAG Always	Generated force 100%

SPC-SYSTEM (SYSTEM PERFORMANCE CHECK)
The electronic system continuously monitors the proper functioning of the magnet. Any abnormal situation is reported immediately and indicated by an error code on the help screen. In this way, errors can be immediately analysed and resolved.

SAFETY FACTOR 3:1
To lift safely, a possible air gap between the contact surface of the magnet, and the steel to be lifted, must be considered. That is why all our magnets are designed with a minimum safety factor of 3: 1 measured at an air gap of 0.4 mm.

2 BUTTON OPERATION
To start the demagnetization cycle, 2 buttons (SAFE + DEMAG) must be pressed consecutively on the remote control.

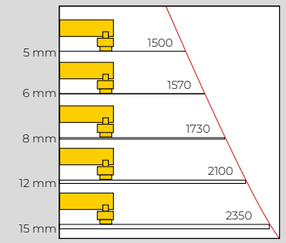
LAMP BLOCK
The status of the magnet is visually indicated by a clear LED lamp block. The load may only be moved when the green lamp lights up continuously!

PICK-UP FULLMAG
DEMAG ALARM

LANDING DETECTION
An inductive proximity switch detects when the magnet is suspended in the air, and prevents accidental demagnetisation.

RADIO REMOTE CONTROL
The magnet is operated from a safe distance. The operator should not come in the immediate vicinity of the load.

INSTRUCTION PANEL
With clear safety instructions for the user regarding:
- Maximum weight of the load in function of material thickness
- Maximum wing in function of the deflection of the material.



MAGBAT

THE SAFEST LIFTING MAGNET IN THE WORLD