

# HM3

## FIX ELECTRO PERMANENT MAGNETIC BEAM



LIFTING OF THIN STEEL PLATES  $\geq 3\text{MM}$   
**SAFETY FACTOR 3**

The HM3 electro permanent magnetic beam is the ideal solution for lifting thin steel sheets starting from a thickness of 3 mm. With a 4-position switch, the PICK-UP force is selected according to the thickness of the steel sheet, guaranteeing that only 1 steel sheet is lifted. Depending on the length of the steel sheet, a number of corresponding magnetic modules are selected. The uniform distribution of the magnetic modules prevents the steel strip from sagging and guarantees safe transport.



### MODELS

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		T (MM) MIN.	CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.			
HM3-03-010	550	500	3000	1000	2500	3	1000	6
HM3-06-006	400	1000	6000	60	300	3	500	4
HM3-06-020	700	1000	6000	1000	2500	3	2000	12
HM3-09-030	1000	1000	9000	1000	2500	3	3000	18
HM3-12-040	1300	1000	12000	1000	2500	3	4000	24

Other dimensions on request



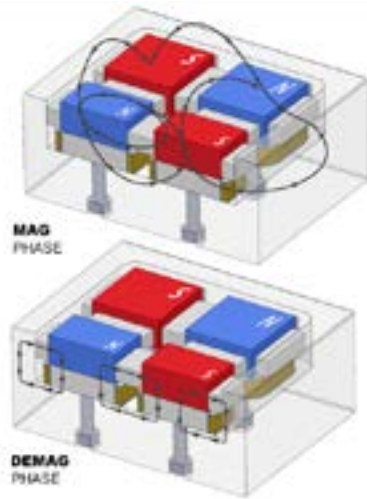


# ELECTRO PERMANENT MAGNETIC TECHNOLOGY

## FOR QUICK AND SAFE HANDLING OF STEEL PLATES AND -STRIPS

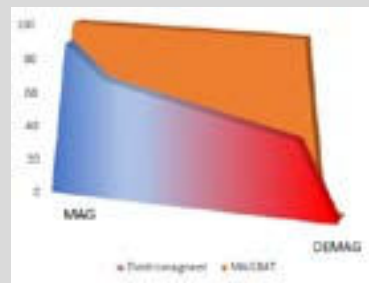


## 9 SAFETY FUNCTIONS



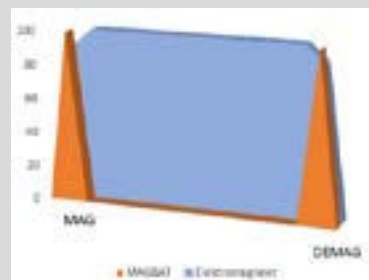
### TECHNOLOGY

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



### 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

### 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.

### 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.

### 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)

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

### 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

### SPC-SYSTEM (SYSTEM PERFORMANCE CHECK)

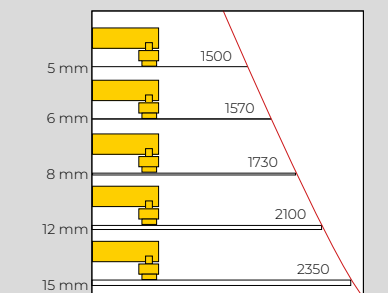
The electronic system continuously monitors the proper functioning of the magnet. Any abnormal situation is reported immediately and indicated by an error code on the help screen. In this way, errors can be immediately analysed and resolved.



### 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