

# HS ELECTRO PERMANENT MAGNETIC BEAM



LIFTING OF HEA-HEB-IPE-IPN  
PROFILES  
**SAFETY FACTOR 3**

Lifting profiles is a time-consuming and dangerous operation. Profiles are often stacked on top of each other, which makes them difficult to handle. When using standard profile clamps, long profiles bend, which makes transport extremely dangerous, and damage to the profile can occur. With the HS-electro permanent magnetic beams, the profile is uniformly clamped from above, and lifted and moved without deformation and/or damage to the profile.

## PICK-UP CYCLE

To ensure that only one profile is lifted, the PICK-UP force can be set to 4 levels.



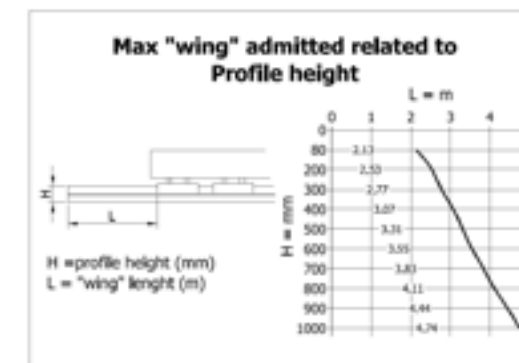
**Percentage of total power at PICK-UP:**  
POSITION I = 15%  
POSITION II = 25%  
POSITION III = 35%  
POSITION IV = 55%

## SELECTION MAGNETIC MODULES

Depending on the length of the profile to be lifted, a corresponding number of magnetic modules can be selected via a 4-position switch.



Landing detection system with inductive proximity switch against accidental demagnetisation in the air



Maximum load instructions related to material thickness



Reinforced lamp block to indicate the status of the magnet.



Flexible suspension of the magnetic modules for perfect adaptation to the profile



SPC system with indication of any system faults



Clear control panel

Radio remote control



Slim pole shoes that fit in a profile from 80mm width.



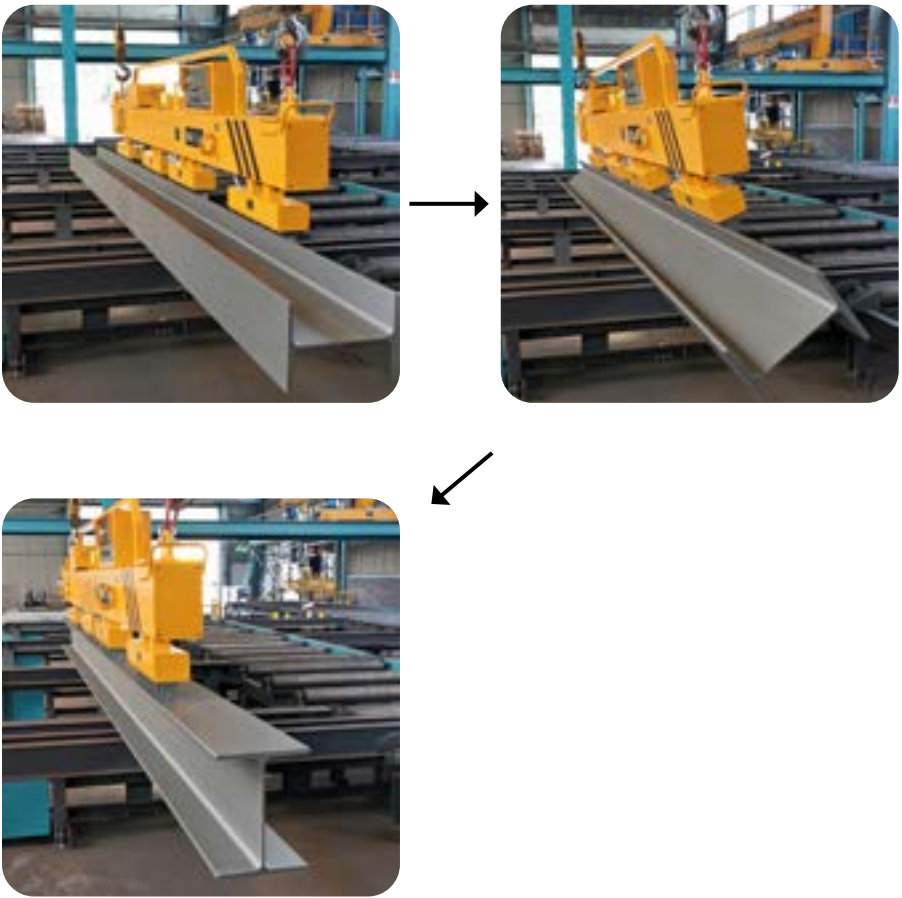
**HS**  
ELECTRO PERMANENT  
MAGNETIC BEAM



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EXAMPLE OF TILTING PROFILES



MODELS

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.		
HS-06-013	500	3000	6000	80	600	1300	2
HS-12-026	900	3000	12000	80	600	2600	4
HS-15-026	1000	1000	15000	80	600	2000	4
HS-18-039	1400	3000	18000	80	600	3900	6
HS-24-052	2100	3000	24000	80	600	5200	6

Other dimensions on request



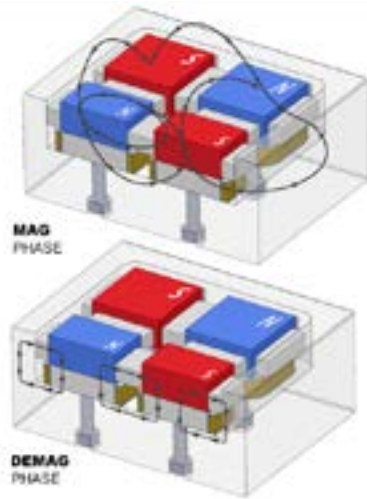


# ELECTRO PERMANENT MAGNETIC TECHNOLOGY

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

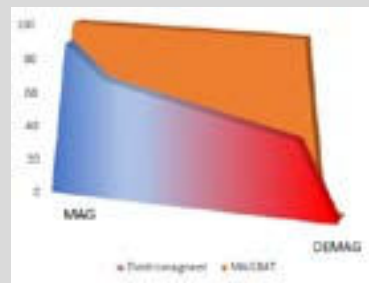


## 9 SAFETY FUNCTIONS



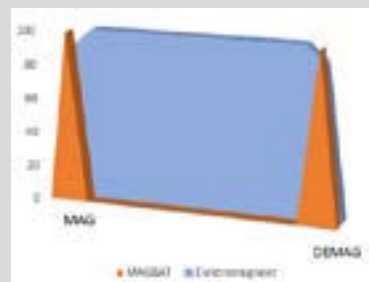
### TECHNOLOGY

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)

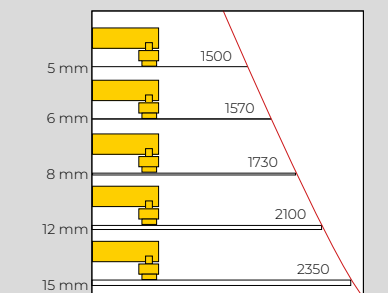
The electronic system continuously monitors the proper functioning of the magnet. Any abnormal situation is reported immediately and indicated by an error code on the help screen. In this way, errors can be immediately analysed and resolved.



### 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