

HM2

TELESCOPIC ELECTRO PERMANENT MAGNETIC BEAM



LIFTING OF STEEL PLATES ≥ 5 MM
IN VARIOUS LENGTHS

SAFETY FACTOR 3



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IN VARIOUS LENGHTS

SAFETY FACTOR 3

Large steel plates are often difficult to handle. When lifting with traditional chains and hooks, the load has the intention to bend and deform, making transport unstable and dangerous.
With the HM2 series electro permanent magnet beams, the load is lifted evenly from the top, without deformation or damage to the load.

PICK-UP CYCLE

Depending on the thickness of the steel plate, the force can be adjusted, so that only 1 plate is guaranteed to be lifted.



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

TELESCOPIC SYSTEM

The telescopic system is driven by a combination electric motor / screw spindle, which allows the telescopic arms to move in and out quickly and synchronously. In this way, the magnetic beam can be adjusted quickly and easily to the length of the steel plate, so the deflection and deformation of the material is minimal.



SELECTION MAGNETIC MODULES

A corresponding number of magnet modules can be selected via a 4-position switch, depending on the dimensions of the steel plate to be lifted. **The possibility to shorten or extend the centre distance between the crossbeams and to select the magnet modules individually, make the HM2 traverses exceptionally flexible in use, even in limited spaces.**



STEEL PLATES 12M

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		T (MM)	CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.	MIN.		
HM2-12-050	2350	3000	12000	500	3000	5	5000	8
HM2-12-080	2500	3000	12000	500	3000	5	8000	8
HM2-12-100	2650	3000	12000	500	3000	5	10000	8
HM2-12-120	2800	3000	12000	500	3000	5	12000	8
HM2-12-150	2950	3000	12000	500	3000	5	15000	8
HM2-12-200	3350	3000	16000	500	3200	5	20000	8
HM2-12-240	3550	3000	16000	500	3200	5	24000	8

STEEL PLATES 16M

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		T (MM)	CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.	MIN.		
HM2-16-090	3300	3000	16000	500	3500	5	9000	12
HM2-16-120	3400	3000	16000	500	3500	5	12000	12
HM2-16-160	3600	3000	16000	500	3500	5	16000	12
HM2-16-200	3800	3000	16000	500	3500	5	20000	12
HM2-16-240	4000	3000	16000	500	3500	5	24000	12
HM2-16-350	10000	3000	16000	500	4200	15	35000	12
HM2-16-500	11000	3000	16000	500	4200	15	50000	12

Other dimensions on request



ADVANTAGES OF ELECTRIC POWERED SYSTEM OVER HYDRAULIC

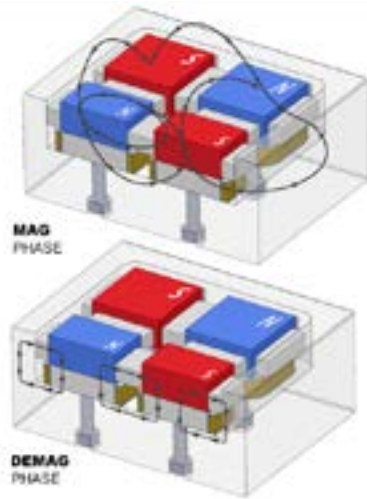
- Electric powered telescopic system is faster than hydraulic.
- An electric motor requires no maintenance, while a hydraulic pump requires regular maintenance.
- No risk of oil leaks, clean system.
- Better and more robust guidance of the hydraulic arms. Steel rollers instead of nylon blocks.
- More reliable. No hydraulic cylinder that can bend in the event of sudden impact.

ELECTRO PERMANENT MAGNETIC TECHNOLOGY

FOR QUICK AND SAFE HANDLING OF STEEL PLATES AND -STRIPS

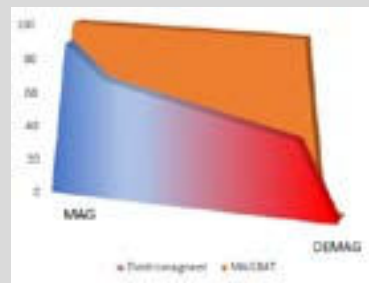


9 SAFETY FUNCTIONS



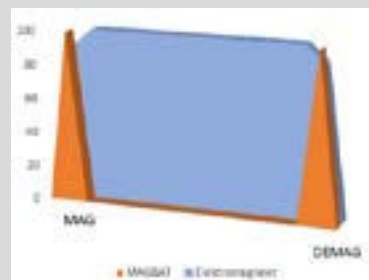
TECHNOLOGY

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)

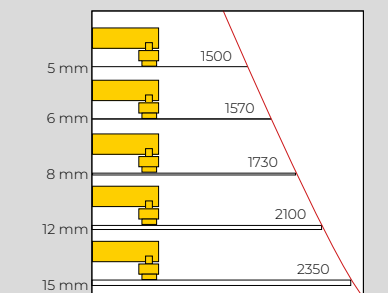
The electronic system continuously monitors the proper functioning of the magnet. Any abnormal situation is reported immediately and indicated by an error code on the help screen. In this way, errors can be immediately analysed and resolved.



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