

HM1

FIX ELECTRO PERMANENT MAGNETIC BEAM



THE ECONOMIC SOLUTION FOR LIFTING STEEL PLATES ≥ 5 MM

SAFETY FACTOR 3

Lifting long steel plates and strips is a dangerous and time-consuming activity. Using traditional plate clamps or chains will cause the load to bend and deform and makes lifting unstable and dangerous. The HM1 electro permanent magnet beams are the economical solution to this problem. The load is clamped uniformly from above, without deformation and / or damage of the steel plate.

PICK-UP CYCLE

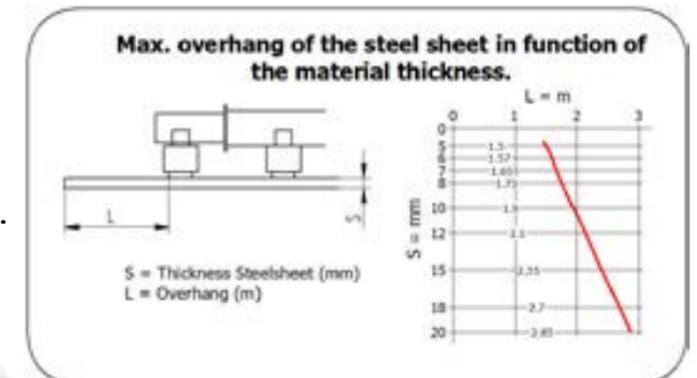
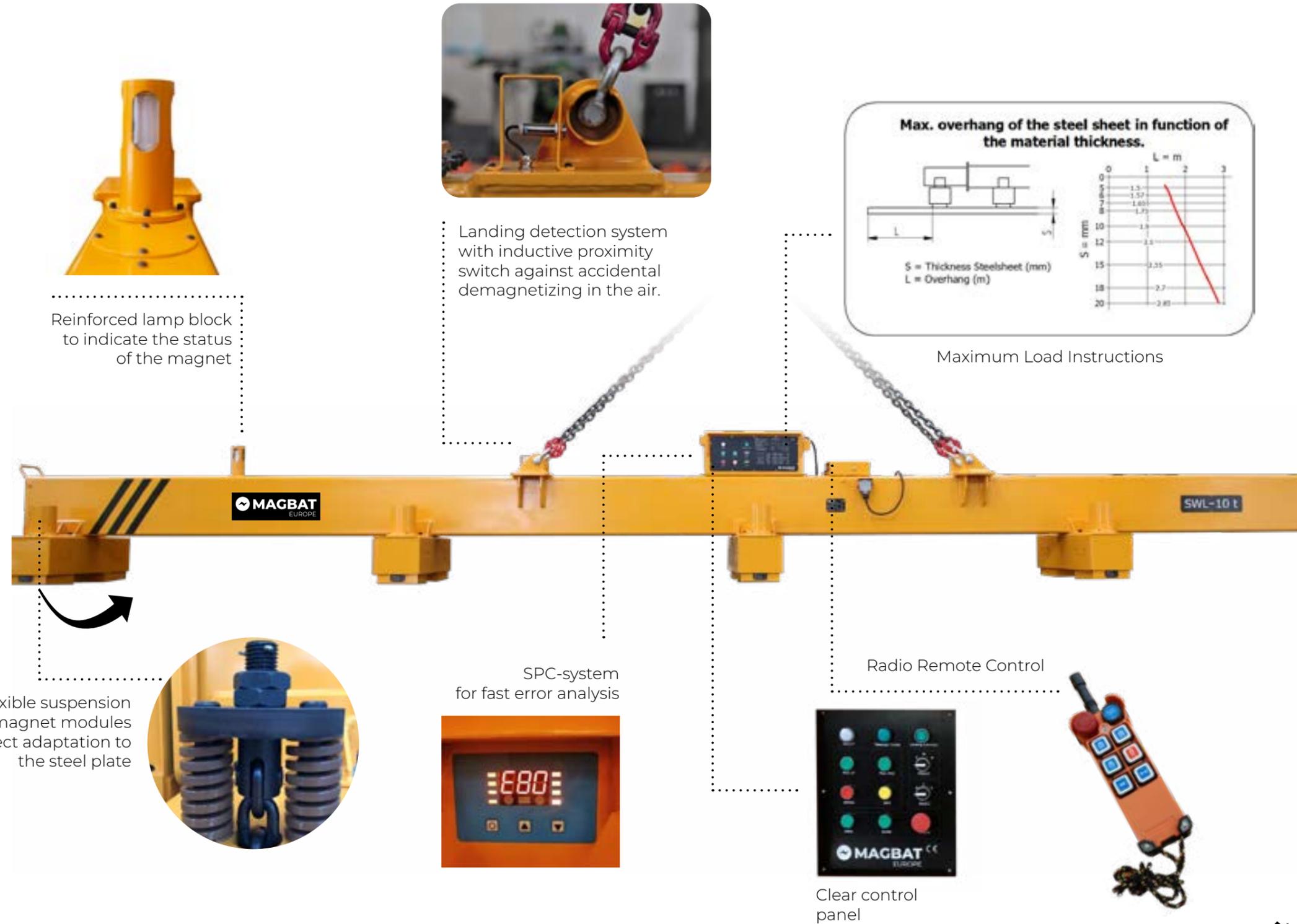
Depending on the thickness of the steel plate, the force can be adjusted, so that only 1 plate is guaranteed to be lifted.



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

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.



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LIFTING OF STEEL PLATES

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		T (MM)	CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.	MIN.		
HM1-03-025	450	500	3000	500	2000	3	2500	4
HM1-04-040	456	250	4000	500	3500	5	4000	4
HM1-06-030	900	500	6000	500	2500	5	3000	6
HM1-06-060	1000	500	6000	500	2500	5	6000	6
HM1-06-090	1100	500	6000	500	2500	5	9000	6
HM1-06-240	1600	500	6000	580	3500	8	24000	6
HM1-09-050	1200	2350	9000	500	2500	5	5000	8
HM1-09-080	1300	2350	9000	500	2500	5	8000	8
HM1-09-100	1400	2350	9000	500	2500	5	10000	8
HM1-09-120	1500	2350	9000	500	2500	5	12000	8
HM1-09-160	1600	2350	9000	500	2500	5	16000	8
HM1-12-050	1600	5000	12000	500	3200	5	5000	10
HM1-12-080	1800	5000	12000	500	3200	5	8000	10
HM1-12-100	2000	5000	12000	500	3200	5	10000	10
HM1-12-150	2200	5000	12000	500	3200	5	15000	10
HM1-12-200	2400	5000	12000	500	3200	5	20000	10
HM1-12-240	2800	5000	12000	500	3200	5	24000	12
HM1-16-100	2600	8300	16000	500	3200	5	10000	12
HM1-16-140	2700	8300	16000	500	3200	5	14000	12
HM1-16-200	2900	8300	16000	500	3200	5	20000	12
HM1-16-240	3000	8300	16000	600	3200	5	24000	12

LIFTING OF STEEL STRIPS

PRODUCT	WEIGHT (KG)	LENGTH (MM)		WIDTH (MM)		T (MM)	CAPACITY (KG)	EPM QTY
		MIN.	MAX.	MIN.	MAX.	MIN.		
HM1-06-010/S	430	400	6000	60	400	4	1000	4
HM1-06-015/S	450	400	6000	60	1000	4	1500	4
HM1-12-030/S	1200	2000	12000	120	1000	6	3000	6
HM1-16-025/S	950	2000	15000	200	800	6	2500	8
HM1-16-045/S	1600	2000	16000	120	1000	6	4500	8

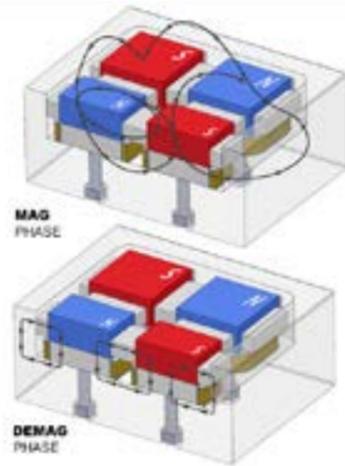
Other dimensions on request

ELECTRO PERMANENT MAGNETIC TECHNOLOGY

FOR QUICK AND SAFE HANDLING OF STEEL PLATES AND -STRIPS

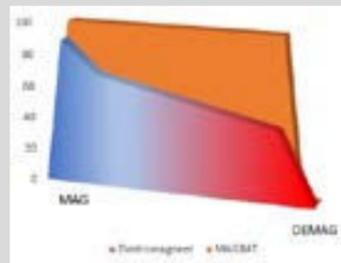


9 SAFETY FUNCTIONS



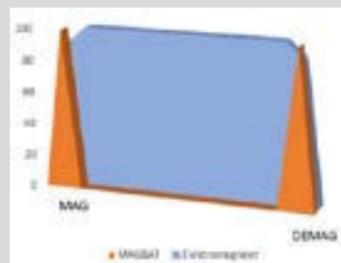
TECHNOLOGY

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)

10 KG	100% IV	PICK-UP Very thin	Generated force 17%
10 KG	100% IV	PICK-UP Medium/thin	Generated force 25%
10 KG	100% IV	PICK-UP Medium/large	Generated force 35%
10 KG	100% IV	PICK-UP Large	Generated force 55%
10 KG	100% IV	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

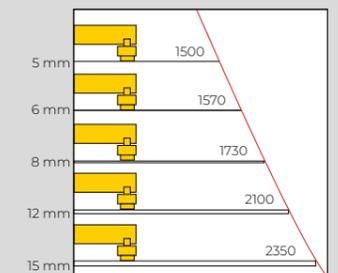
SPC-SYSTEM (SYSTEM PERFORMANCE CHECK)

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