

HBEPS

ELECTRO PERMANENT MAGNETIC BEAM WITH BATTERY SUPPLY



LIFTING OF HEA-HEB-IPE-IPN
PROFILES

SAFETY FACTOR 3

Lifting profiles is a time-consuming process, often involving risks for the operator and the environment. In addition, modern saving lines are equipped with light curtains that make it difficult for operators to move around in the production environment. The HBEP electro permanent magnet traverse on battery power makes it possible to load and unload saw lines in a fast and quick way.

PICK-UP CYCLE

Depending on the thickness of the steel plate, the PICK-UP force can be adjusted to ensure that only one plate is lifted.



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

SELECTION OF MAGNETIC MODULES

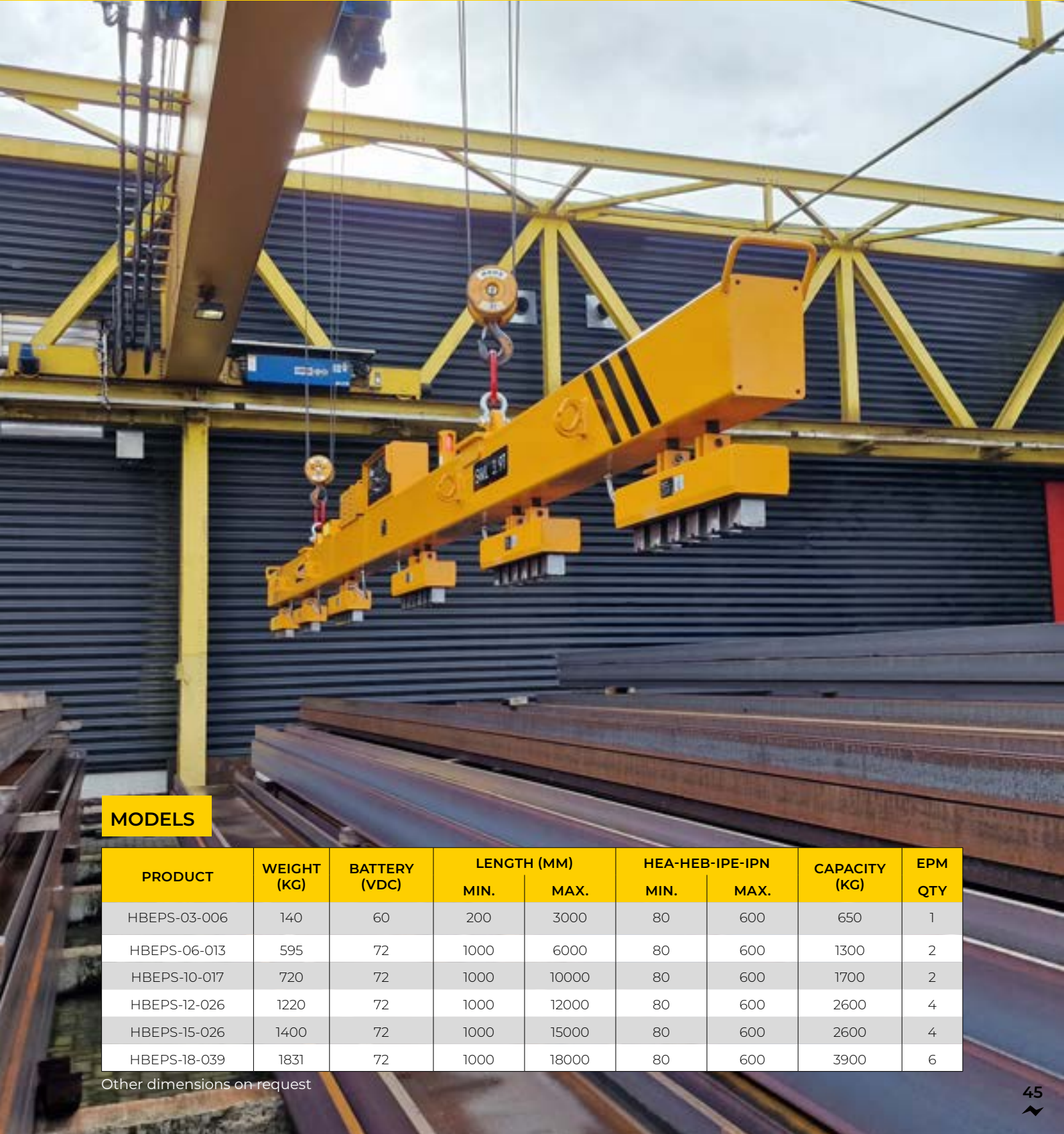
Depending on the length of the profile to be lifted, a number of corresponding magnetic modules can be selected via a 4-position switch.



INNOVATIVE BATTERY TECHNOLOGY

Because only a short pulse of electric current is required for magnetisation and demagnetisation, more than 300 cycles can be performed with one fully charged battery. The status of the battery is continuously monitored and clearly displayed.

EXAMPLE OF TILTING PROFILES



MODELS

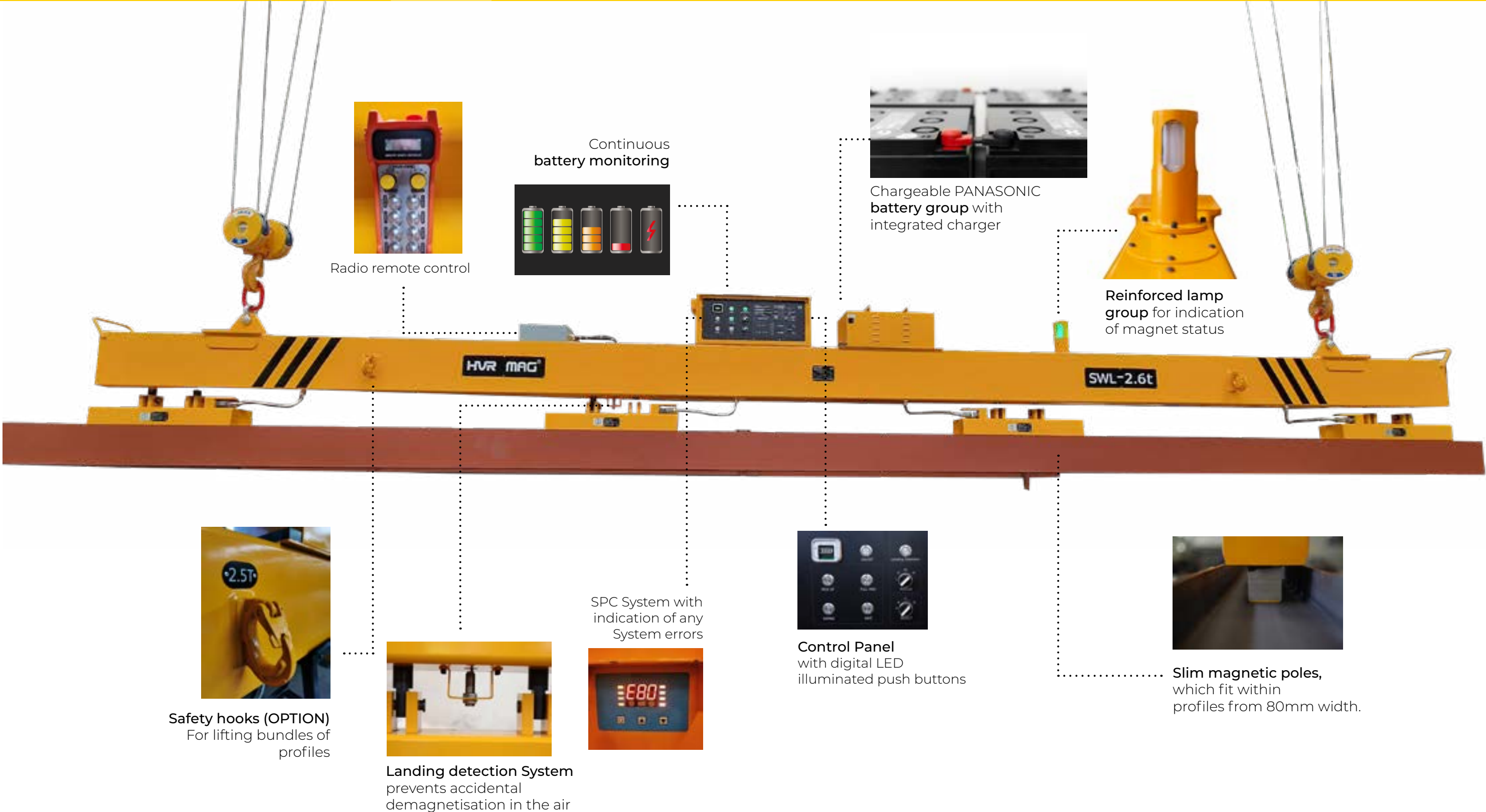
PRODUCT	WEIGHT (KG)	BATTERY (VDC)	LENGTH (MM)		HEA-HEB-IPE-IPN		CAPACITY (KG)	EPM QTY
			MIN.	MAX.	MIN.	MAX.		
HBEPS-03-006	140	60	200	3000	80	600	650	1
HBEPS-06-013	595	72	1000	6000	80	600	1300	2
HBEPS-10-017	720	72	1000	10000	80	600	1700	2
HBEPS-12-026	1220	72	1000	12000	80	600	2600	4
HBEPS-15-026	1400	72	1000	15000	80	600	2600	4
HBEPS-18-039	1831	72	1000	18000	80	600	3900	6

Other dimensions on request

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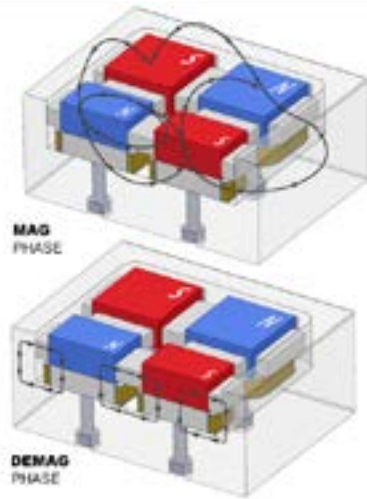


ELECTRO PERMANENT MAGNETIC TECHNOLOGY

FOR QUICK AND SAFE HANDLING OF STEEL PLATES AND -STRIPS

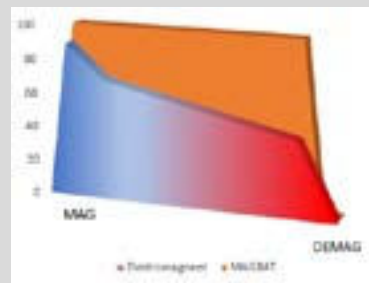


9 SAFETY FUNCTIONS



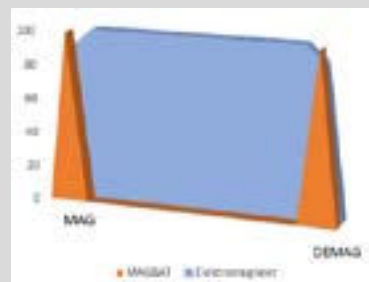
TECHNOLOGY

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

2 BUTTON OPERATION

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

LAMP BLOCK

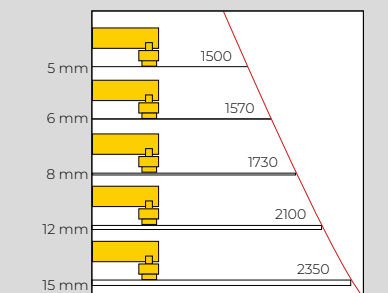
The status of the magnet is visually indicated by a clear LED lamp block. The load may only be moved when the green lamp lights up continuously!

- PICK-UP ● FULLMAG
- DEMAG ● ALARM

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