

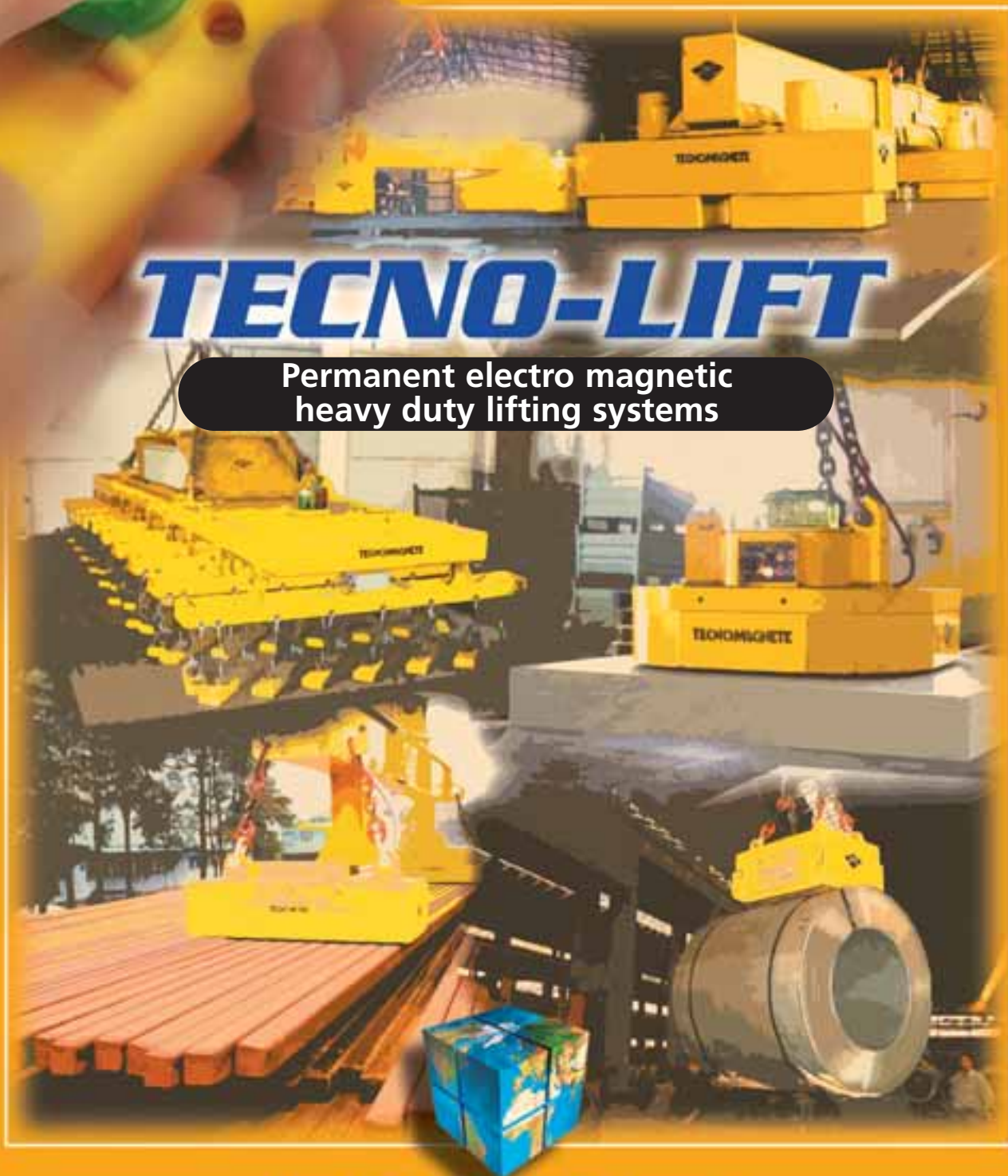
DEMAG

MAG

*With a simple touch
Great savings
and more safety*

TECNO-LIFT

Permanent electro magnetic
heavy duty lifting systems



TECNOMAGNETE®

Safety through power

TECNO-LIFT

The most intelligent way to move ferrous loads

Magnetism is the smartest way of handling ferrous loads. Tecnomagnete has continuously researched and developed permanent-electro magnets for 30 years, the only technology that combines safety, strenght, convenience and power savings.

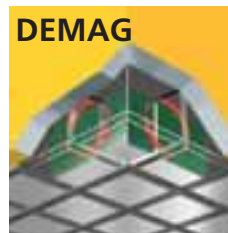
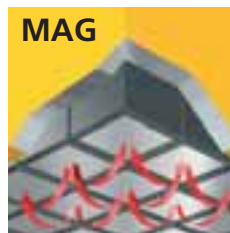
Tecnolift systems can handle the loads with extreme easiness in the minimum area.

They are efficient because they operate always from the top without compressing or deforming the load.

The floor space is optimized as no empty areas are required around or in between the loads to get access for their pick up.

No other solution can grant the same level of performances and practical use.

TECNO-LIFT is the ideal solution for steel structural works, distribution and storage, service centers metalworkings, shipbuildings, surface treatment and for all modern industries interested in increasing the efficiency of production process.



Quadsystem technology. Power and safety to square.

Quadsystem permanent-electro circuit: the power of an electromagnet joined to the independance of the permanent magnet. The technology of the double magnet uses electrical power only for few seconds in activation "MAG" and deactivation "DEMAG" cycles.

Tecnomagnete designed and patented this unique ad totally innovative technology, where the clamping surface is composed by square poles in chess-board disposition, able to generate great power exactly and only where it is needed: into the load.

The patented "neutral crown" guarantees a perfect insulation of the permanent magnets, avoiding any power losses and interferences with other metallic objects nearby.

Permanent safety

A permanent electro system is intrinsically safe being not affected by any electrical power failure. No batteries back up system is required.

The high energy coming from the permanent magnets keeps the load safely clamped with constant force at indefinite period of time and it can be released only on the ground. The maximum safety level for the operator and for the machinery is granted, always!



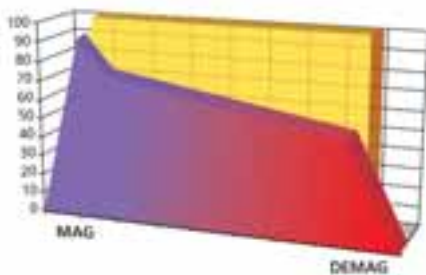
Easy to use and convenient

One single operator with a remote control can perform all picking-up, lifting, handling and releasing operations always staying at safe distance from the load.

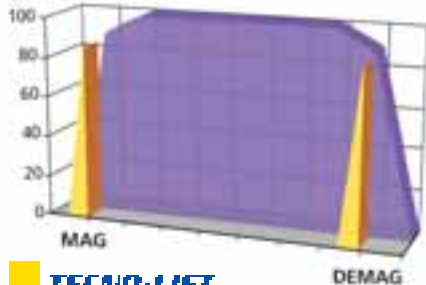
No other manpower is required near the load. No other safety tools, belts, chains need to be managed and maintained.

Advantages versus the traditional electro-magnetic technology

Constant strenght



High energy saving



TECNO-LIFT

Electro magnet
Heating effect with electro magnet

Tecnolift permanent electro technology is a great leap ahead compared to the traditional electro magnetic lifters:

In performance: TECNOLIFT is a cold system due to the absence of heat generation inside the magnets. The clamping force remains constant unlike the traditional electromagnets that are affected by the overheating of the coils in constant use.

In energy saving: TECNOLIFT needs electrical supply only for few seconds, during the MAG and DEMAG phases. The electrical consumption is 95% less compared to a traditional electromagnet.

In operational costs:

The robust solid block construction of Tecnolift magnetic modules with no moving parts inside, no stress and no overheat in the magnet coils can grant a long reliability without specific maintenance. The expensive back up maintenance is also avoided.

In the production process:

TECNO-LIFT doesn't leave residual magnetism in the load. All problems caused normally by the residual magnetism on welding or precision machining operations are eliminated.

Flux concentration for a precise lifting

The Quadsystem technology allows to short circuit the magnetic flux within a very small depth making possible to lift one steel plate only even when limited thickness are involved.



Load stability and compactness.

The traditional wooden spacers between loads are nomore necessary. The load condition is more compact, less overall size and, with no deformation it is more stable during the transportation.

Tailored Solutions

Tecnolift systems are designed and built to be compact, light weight, powerful and reliable. The vast array of standard models provides various characteristics of polar geometry and magnetic strength to achieve the correct performance with relation to the load type to be handled (plates, blocks, slab, profiles, coils, etc...)

All standard Tecnolift systems grant a safety factor of 1:3 between the weight of the load at its operative air-gap and the relevant magnetic force of the lifter.

Certified Quality



The Tecnolift systems respect the most common international norms. (UNI-EN 13155:2004). Construction control quality, operative safety and constant performances are tested and certified.



Sheet handling

Telescopic beams

Plates, especially large ones, are particularly difficult load to handle. When attempted to move with traditional methods (hooks, chains, cables) the plates have a tendency to flex and deform, making the grip on the load unstable and dangerous.

The TM series Beams pick up the load uniformly from above, without deformations or damage to the load. Specific selection of the thickness is possible even via radiocontrol to pick up single plate.

TM 4 series

For single plate handling up to 12m.
Version with 4 cross beams with 2 modules each

The Telescopic Movement



The ability to lengthen or shorten the center distance between cross beams and select the modules to magnetize, make the TM Beams extremely flexible to use. The telescopic movement is actuated by a dedicated hydraulic pump; the movement of the telescopic arms allows the handling of a complete range of big plates.



- medium plates: activate all the cross beams with the side modules in the closed position
- long plates: activate all the cross beams and extend the arms to the maximum opening
- narrow plates: activate only the left or right side modules

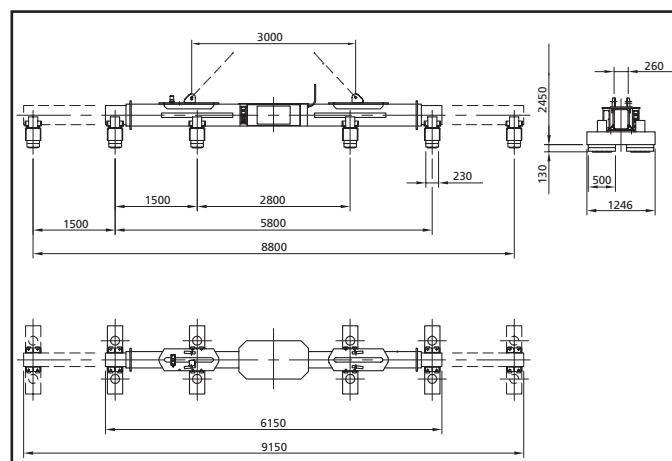
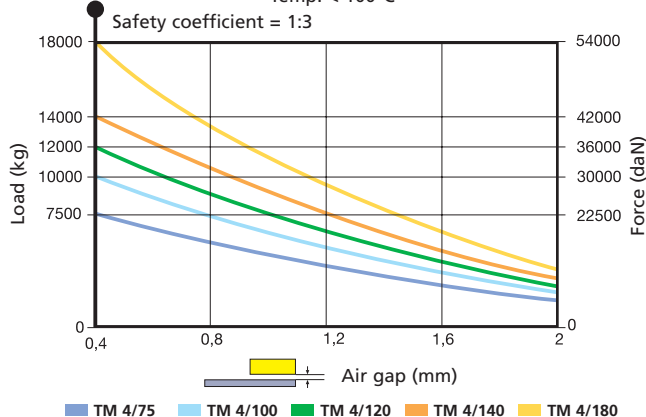
Model	beam weight	Load Characteristics					
		thickness.	length		width		rated lift
		min.	min.	max	min.	max	capacity max
TM 4/N	kg	mm	mm	mm	mm	mm	kg
TM 4/75 N	2800	5	3000	12000	500	3500	7500
TM 4/100 N	2800	5	3000	12000	500	3500	10000
TM 4/120 N	2800	5	3000	12000	500	3500	12000
TM 4/140 N	2800	8	3000	12000	500	3500	14000
TM 4/180 N	2800	8	3000	12000	500	3500	18000

Modules Selection

It is possible to lift loads of various lengths, by simply selecting the magnetic modules necessary:
- shorter plates: activate only the center cross beams, excluding the others

Air Gap Curve

on flat surface in "Fe" minimum thickness 30mm with all poles covered.
Temp. < 100°C



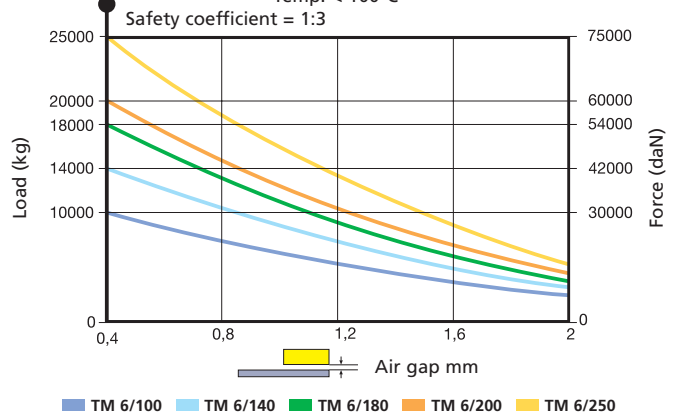


TM 6 series

For handling single plates up to 16m.
Version with 6 cross beams with 2 magnetic modules each

Air Gap Curve

on flat surface in "Fe" minimum thickness 30mm with all poles covered.
Temp. < 100°C

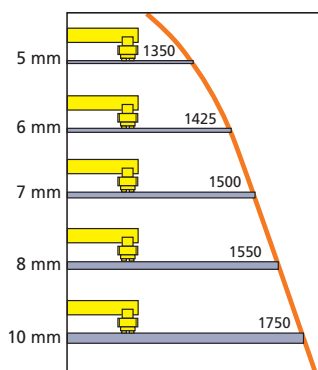


Whip Chart

The TECNO-LIFT lifting systems are designed with rigid structural characteristics and with a specific magnetomotive force coefficient (MMF) to guarantee handling even with significant values on the whip chart



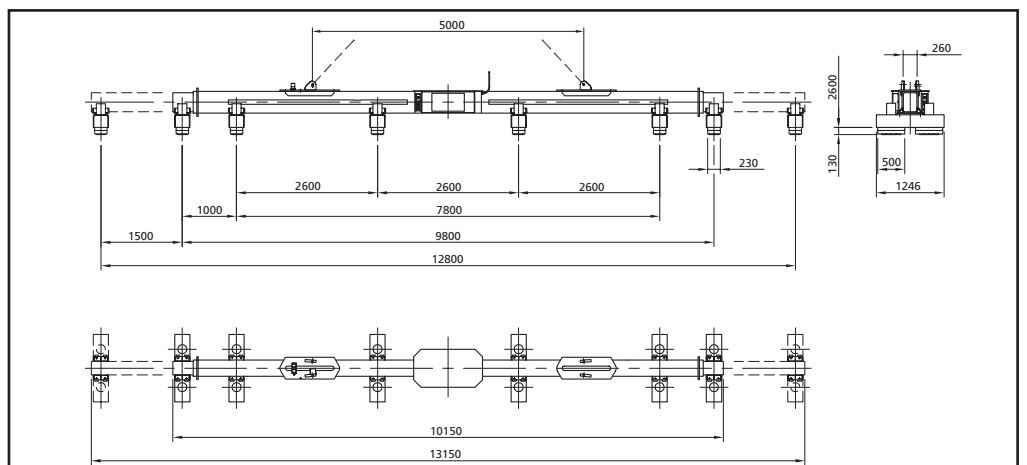
With the TECNO-LIFT systems it will be always possible to obtain the utmost performance in terms of load capacity and size, as specified in the technical specifics of these tables and performance tags on the lifters



Allowed whip chart values: the relationship between the end of the load ("wing") and the thickness of the same piece.

Load Characteristics

Model TM 6/N	beam weight kg	thickness	length		width		rated lift capacity max kg
		min. mm	min. mm	max mm	min. mm	max mm	
TM 6/100 N	4000	5	2800	16000	500	3500	10000
TM 6/140 N	4000	5	2800	16000	500	3500	14000
TM 6/180 N	4000	5	2800	16000	500	3500	18000
TM 6/200 N	4000	8	2800	16000	500	3500	20000
TM 6/250 N	4000	8	2800	16000	500	3500	25000



Sheet handling



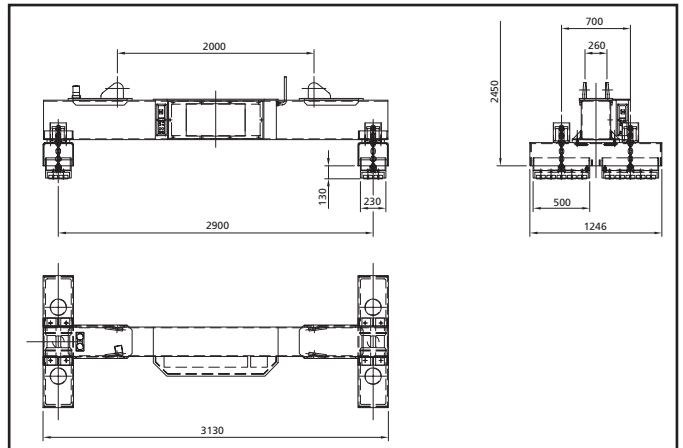
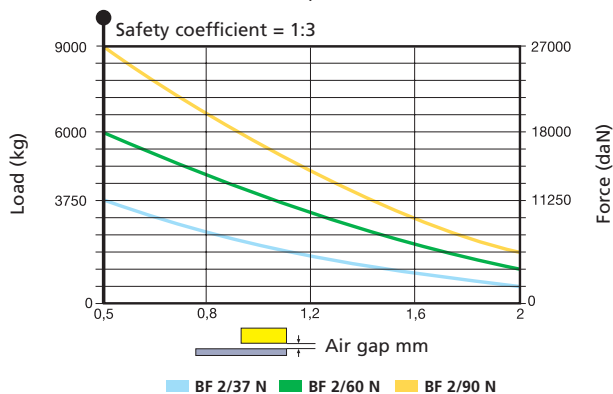
BF 2 Fixed Beam

For plates handling with a maximum length of 6 m.
2 cross beams with 2 magnetic modules each

They have the same characteristics as the TM series, but the 2 cross-beams are at fix distance.
This system is used when the plates come in constant sizes and do not require the telescopic device.

Air Gap Curve

on flat surface in "Fe" minimum thickness 30mm with all poles covered.
Temp. < 100°C



Model	beam weight kg	Load Characteristics					rated lift capacity max kg
		thickness min. mm	length min. mm	length max mm	width min. mm	width max mm	
BF 2/37	1100	5	3200	6000	500	3000	3700
BF 2/60	1100	5	3200	6000	500	3500	6000
BF 2/90	1350	8	3200	6000	500	3500	9000

GTR Magnetic Cross-beams

The magnetic cross-beams come separate without beams in sets of 4 or 6 (respectively GTR 4/N and GTR 6/N) complete with controller and accessories, ready to be installed on existing beams.
Magnetically equivalent to TM 4/N and TM 6/N



Model	weight kg	Load Characteristics					rated lift capacity max kg
		thickness min. mm	length min. mm	length max mm	width min. mm	width max mm	
GTR 4/75 N	1040	5	12000	500	3500	7500	
GTR 4/100 N	1040	5	12000	500	3500	10000	
GTR 4/120 N	1040	5	12000	500	3500	12000	
GTR 4/140 N	1040	8	12000	500	3500	14000	
GTR 4/180 N	1040	8	12000	500	3500	18000	

Model	weight kg	Load Characteristics					rated lift capacity max kg
		thickness min. mm	length min. mm	length max mm	width min. mm	width max mm	
GTR 6/100 N	1560	5	16000	500	3500	10000	
GTR 6/140 N	1560	5	16000	500	3500	14000	
GTR 6/180 N	1560	5	16000	500	3500	18000	
GTR 6/200 N	1560	8	16000	500	3500	20000	
GTR 6/250 N	1560	8	16000	500	3500	25000	



TECNOMAGNETE®



TB Tilting beams

For handling single plates up to 12 m. long in vertical or horizontal position.

The fix beam with the simple and effective tilting system of the magnetic modules is the perfect solution for operations where vertical axis plates need to be placed in a horizontal axis or vice versa (typically from storage to a cutting table, laser, plasma, etc...)

Supplied with a special radio remote control "belt use" RC/B.



Load Characteristics				
Modello TB	thickness.	length		rated lift capacity max kg
	min. mm	min. mm	max mm	
TB 4/35	4	2500	6000	3500
TB 4/100	5	3000	12000	10000
TB 6/35	4	2500	12000	3500



TT Fix beams for cutting systems

Fix beams for cutting systems

For handling single plates and skeletons after the cutting operation is completed.

TT modular systems are tailor made by designing them to the size of the plate and the cut pieces.

They allow easy and fast loading & unloading operations on any type of cutting machines (plasma, oxyacetylene, laser, high definition). In particular they free the bench from cut plate and skeleton in a single move to make the machine immediately available.

Standard model for any sheet surface with a minimum piece size of 300x300 mm. and a thickness between 4 and 25 mm.

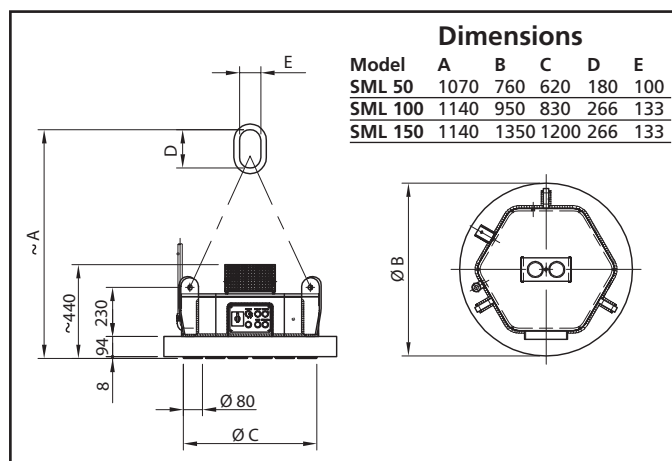
Block handling

SML single modules

For handling single plates or semi finished blocks.

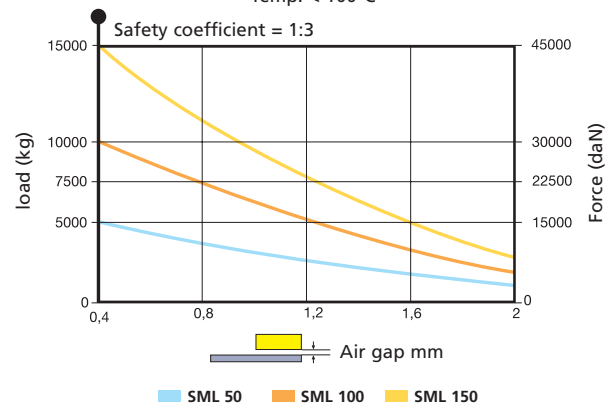
SML permanent electro-magnetic modules are the ideal answer for handling blocks with limited air gap.

- Excellent ratio between weight of the lifter and its capacity.
- Multipole circuit to uniformly spread the force across the working area.



Air Gap Curve

on flat surface in "Fe" minimum thickness 30mm with all poles covered.
Temp. < 100°C



Model SML	module weight kg	Load Characteristics					
		thickness. min. mm	length min. mm	length max. mm	width min. mm	width max. mm	rated lift capacity max kg
SML 50	500	8	1000	5000	1000	2500	5000
SML 100	700	8	1000	5000	1000	2500	10000
SML 150	1000	8	1000	5000	1000	2500	15000

SMH single modules

For handling single thick slabs and forged blocks.

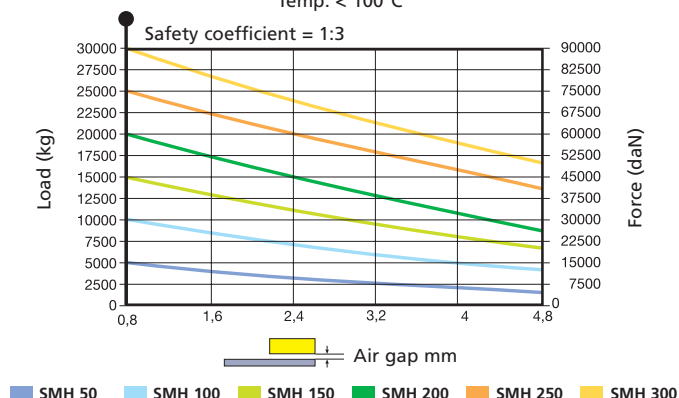
SMH permanent electro-magnetic modules are designed for hoisting loads with big operational air gaps.

- 4-pole circuit for high force concentration.
- High magnet strenght.



Air Gap Curve

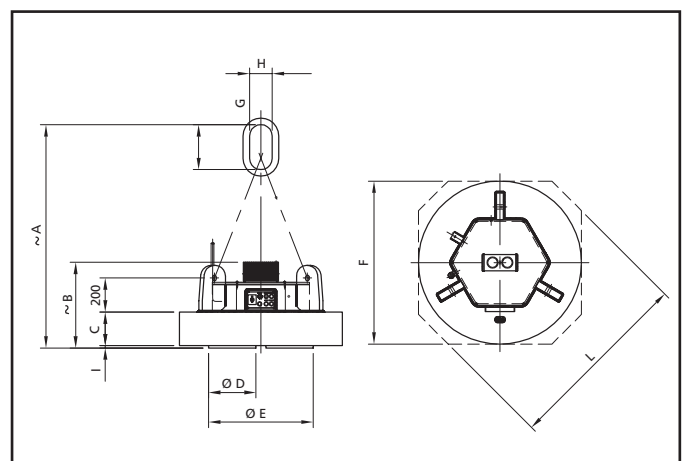
on flat surface in "Fe" minimum thickness 100 mm with all poles covered.
Temp. < 100°C



Dimensions mm

Model	A	B	C	D	E	F Ø	G	H	I	L
SMH 50	1285	505	155	198	462	800	180	100	15	
SMH 100	1545	531	181	242	560	880	266	133	15	
SMH 150	1575	563	213	280	626	860	266	133	15	997
SMH 200	1760	577	227	320	706	980	304	152	15	1117
SMH 250	1790	637	280	350	770	1100	355	177	18	
SMH 300	1790	625	272	374	814	1147	355	177	18	1311

Model SMH	module weight kg	Load Characteristics					
		thickness. min. mm	length min. mm	length max. mm	width min. mm	width max. mm	rated lift capacity max kg
SMH 50	610	30	1000	6000	1000	2500	5000
SMH 100	950	30	1000	6000	1000	2500	10000
SMH 150	1300	40	1000	6000	1000	2500	15000
SMH 200	1750	40	1000	6000	1000	2500	20000
SMH 250	2150	80	1000	6000	1000	2500	25000
SMH 300	2700	80	1000	6000	1000	2500	30000



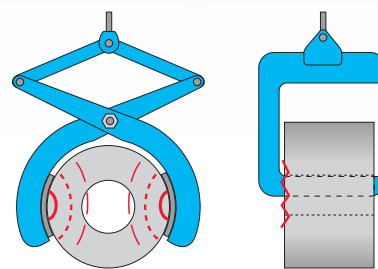
Coils - Billets and Slabs handling



The TECNO-LIFT Line provides a vast array of solutions dedicated for the handling of compact coils of various morphology and dimensions, without weight limitations.

TECNO-LIFT always comes in contact with the material surface gently from the top, without compression or deformations.

TECNO-LIFT avoids all the problems associated with conventional methods of lifting represented by clamps and C-hooks which require constant pressure on the load.



CV

Modules for handling cold-rolled coils, vertical eye.

CV / T

Modules for handling cut coils, vertical eye (suturing lines).

CO

Modules for handling open coils, vertical eye (annealing process).



CH

Modules for handling cold-rolled coils with a horizontal eye.

Complete with automatic load-centering system.





TECNOMAGNETE®



BL

Permanent-electro magnetic modules for handling layers of billets up to 600° C – in the core.

Dedicated solution for any load shape, size and weight.



BR

Modules for handling slabs
Typical application: on harbour cranes, to load/unload ships.

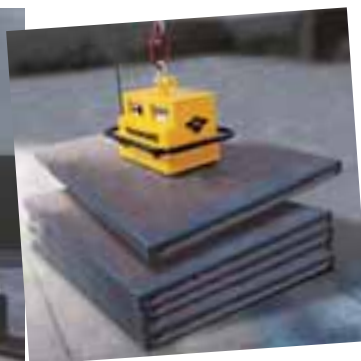
Dedicated solutions for any load shape size and weight.



BAT GRIP

3 Ton capacity permanent-electro lifters with battery.

Equipped with a remote control, this lifter is capable to ensure a long and independent from the power supply (est 7 days) because the energy from the battery is only used for a fraction of a second during the MAG/DEMAG phase.



Sections - Rails - Profiles - Rounds - Pipes - Tanks



TP

For handling beams and profiles.

Modular systems combining the benefits of safe lifting, compactness and convenience.

Their specific and unique pole design permits the rotation of the load on the ground for the inspection or for the storage in the correct position between the racks.



Load Characteristics

Modello	HEA - HEB - IPE - IPN	length max	rated lift capacity
TP	min. (mm) max (mm)	mm	max kg
TP 2/16	80 600	10000	1600
TP 3/20	80 600	12000	2000
TP 4/30	80 600	18000	3000
TP 8/50	80 600	18000	5000

RD

Modules for lifting rounds.

For the movement of round loads only.

The modules "V" groove design adapts to the morphology of the load allowing the centering of the module on the load during clamping phase.



TU

Modules for lifting tubes round and square.

For the lifting of layers of tube without welding and round loads of various types





CS

Modules for lifting tanks.

For the movement of round loads of oversized dimensions and thin wall thickness. Tailor made solutions for the movement of tanks, containers, in total safety without deformations of the load.



Dedicated solution

The TECNOMAGNETE can be equipped with accessories for various applications

- **Fifth wheel**

to rotate the load according to the application.

- **Supplementary Hooks**

Allowing the use of the beam in a traditional manner,

with chains and rope, without dismantling the system TECNOMAGNETE. Useful when the load is non ferrous or has non-standard geometry.

- **SRM**

Manual 90° rotation system for the cross-beams. Useful for profiles and narrow loads.

- **Auxiliary cross beam**

Allows the reduction of the height of the system from the load to the hook of the crane. Useful for the compensation of various center points for double crane hoists and for those cases where the crane height is too low.



Characteristics, Accessories and Equipments

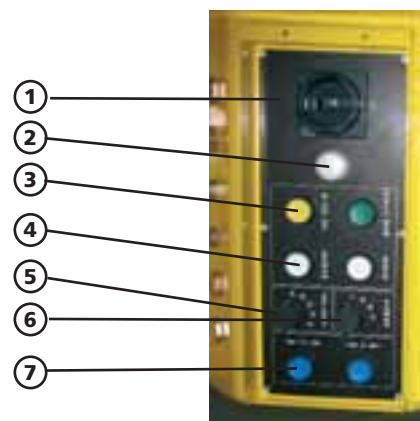
When it comes to safety and trust, no detail can be overlooked or left to chance: thousands of systems TECNO-LIFT installed all over the world are our main credentials. Every system represents a study in optimizing the function of real time productivity.

Special attention is dedicated to the safety: various electromechanical systems check for accurate magnetism on the load and detect any problems that may occur during the magnetization, clamping of load, moving the load and the accidental demagnetization during the material handling.

with 75% of the total possible magnetization strength, only once the load is lifted from the ground the second MAG cycle is executed allowing 100% of the total magnetization power (FULL MAG). This provides a definite minimum safety margin to the load that can be handled in complete safety.



All the magnetic modules are made from a solid piece of steel; this creates a greater protection against accidental impacts with higher reliability. Elastic suspension system are used anytime the application requires it to equally distribute the weight of the load among the different pick up points avoiding dangerous overloading.



Control Unit

In a compact IP54 cabinet to allow fast activation and deactivation cycles (max 7 sec)

1- Push button panel

Is integrated in the body of the lifter and contains the basic functions (ON/OFF, PICK-UP, FULL MAG, DEMAG, SAFE)

2- The electronic UCS saturation control system controls the correct value of the current absorbed to ensure that the modules reached the full magnetic saturation.

3- PICK-UP, FULL MAG*

The TECNO-LIFT system uses a double magnetization cycle test the load according to its weight and airgap condition. Pick-up cycle is executed first

4- Safe button: The user is obligated to press 2 buttons at the same time (SAFE and DEMAG) to release the load, this reduces the chances of an accidental load release.

5- Cross Beam Selections*.

Allows the magnetization pattern of the modules: only the center ones, all the cross beams, only one side (narrow loads) left or right.

6- The push button remote includes the **APC Power adjustment control**.

This is a 4 level selector that can reduce the magnetic depth to pick up the load from stack.

7- For the TM4 and TM6 systems, the remote control also includes the **OPEN and CLOSE** buttons for the telescopic portions of the beams.

*only available for specific TECNOLIFT models – see chart)



DAUTANAC

Is the safety contact that allows the magnetization / demagnetization only when the chains have slack. This contact prevents the accidental demagnetization when the load is suspended.

Chains:

are high strength steel 80

Lamp Block

To display the status of the system: Normal operation / Pick Up phase / Alarms



Drum Reel

Enables an easy installation of the system on any type of crane. The cable length is 12 meters and it comes with the appropriate mounting plate.

RC / N



Remote Control

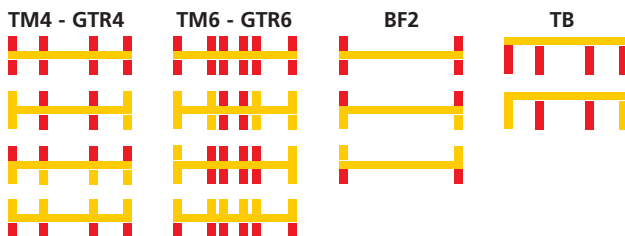
Enables the operation of the system (pickup/ full mag/ safe/ open/ close) from outside the working area and away from the load.

The new model is ergonomic, emergency stop button, and APC power adjustment knob. Supplied with frequency regulator, two re-chargeable batteries and charger (110V or 220V) for the transmitter.

RC / S: simple remote control

RC / B: "belt use" remote control

Cross Beam magnetization selector



Standard supply table

	Standard ●																Optional □		
	BF2	GTR4	GTR6	TB	TT	SML	SMH	CV	CO	CH	BL	BR	BAT	TP	RD	TU	CS		
Structure - High strength tubular steel	●	●	●	□	□	●	●	-	-	-	-	-	□	□	-	●	-	●	●
Elastic suspension system for modules	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	●	-	●	-
Integrated control Unit	●	●	●	-	-	●	●	●	-	-	-	-	-	-	-	●	●	●	●
Stand alone controller	-	-	-	●	●	-	-	□	□	●	●	●	●	●	-	□	□	□	□
Double cycle magnetization PICK-UP/FULL MAG	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	●
Hydraulic telescoping system	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Remote control RC/*	N	N	N	N	N	B	N	N	N	-	-	-	-	S	N	-	-	-	-
Remote control for crane cabine	-	-	-	-	-	-	-	□	□	□	□	□	□	-	□	□	□	□	□
APC power adjustment	●	●	●	●	●	●	●	●	●	□	-	-	-	□	-	-	□	□	-
Safe Button	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	●
DAUTANAC	●	●	●	●	●	●	●	●	●	●	-	-	□	●	●	-	-	-	-
UCS Saturtaion control unit	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Lamp Block	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●	●	●
Chains	●	●	●	□	□	●	●	●	●	●	●	●	●	-	●	●	●	●	●
Drum Reel	□	□	□	□	□	□	□	□	□	□	□	□	□	-	□	□	□	□	□
Installtion kit	□	□	□	□	□	□	□	□	□	□	□	□	□	-	□	□	□	□	□
SRM - Module rotation device	□	□	□	□	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Please visit our website to download technical questionnaires.



A world of magnetic solutions

Here is a strong statement:
Tecnomagnete has revolutionized the world of work holding!
Do you want a stronger one? The QuadSystem!



This permanent electro magnetic system generates a concentrated and predetermined force that is highly effective to clamp steel parts on machine tools, molds for injection molding and dies for metal stamping machines, and the handling of ferrous loads.

We've believed in the force of our QuadSystem patent and many companies have believed in this powerful innovative technology. The large variety of applications of over 100,000 systems sold world wide gave all our customers a sharp competitive edge with safety and flexibility.

Nowadays, with the global network of our subsidiaries and commercial partners we are at your disposal to show you state of the art technical solutions for all applications and increase your success. Tecnomagnete: all the magnetism of the leader.

We reserve the right to make changes related to the technological progress.

TL-06/06 ENG

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Safety through power

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France	Tecnomagnete S.A.R.L.
Germany	Tecnomagnete GmbH
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