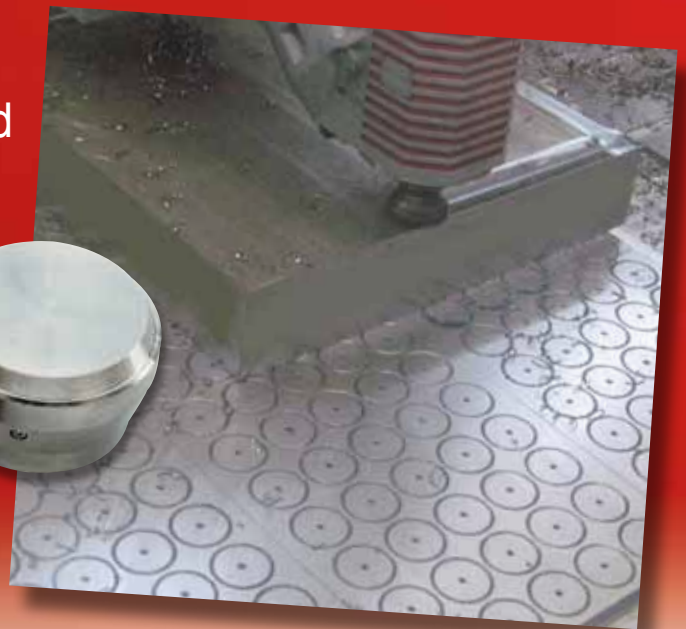
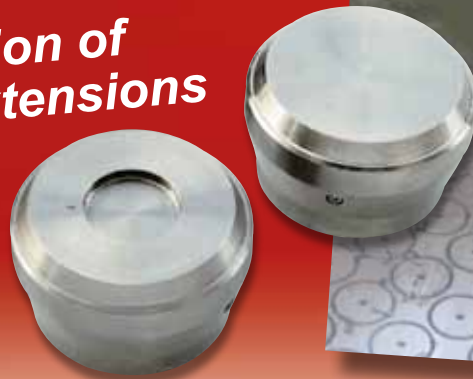


Discover the Quality of Excellence

The innovative permanent-electro magnetic system for milling

- Monolithic construction
- Solid metal surface
- Thickness and weight reduced
- High sturdiness

*New generation of
mobile pole extensions*





The evolution of a success

The **Quadsystem** technology patented by Tecnomagnete has represented for more than 25 years the most advanced frontier of the Permanent-electro magnetism applied to machine tool work holding systems, to quick clamping on injection molding, metal stamping machines and on steel handling systems, with impressive operational advantages witnessed by thousands of customers worldwide.

Power, safety, constant and predictable performances, no residual magnetism or stray flux are the winning points of this technology.

The bi-directional magnetic circuit with all N/S poles energized by a double magnet system (Alnico + Neodymium) can generate the highest level of magnetic induction into the steel and can grant an high Magneto-motive force (MMF) to operate safely even in case of critical air-gap conditions.

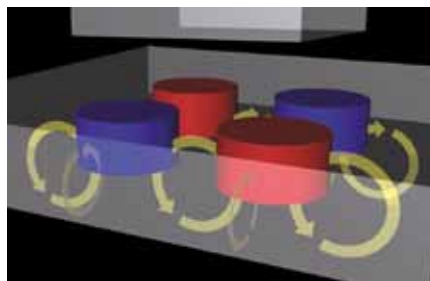
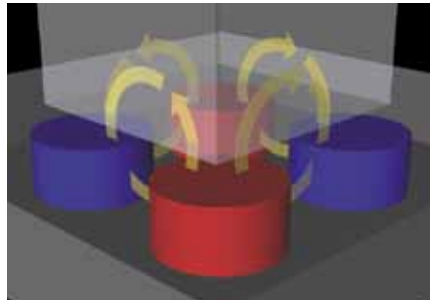
The quadrangular chessboard layout of the circuit, allows the magnetic flux fowing horizontal and flat with a very limited depth, fully concentrated in the polar area, thus in the work piece to be clamped.

Being all N/S poles absolutely identical, the magnetic circuit is perfectly balanced with no stray flux, no magnetic interference and with constant and predictable performances (Neutral Crown patent).

A permanent-electro magnetic system is intrinsically safe. In fact, after the system has been activated by an electric pulse that lasts for few seconds only, the work piece remains clamped with no time limit, with constant power and no power supply, held only by the power of high energy permanent magnets.

The system can be later deactivated with a short-electric pulse. No heating up of the system, no power consumption.

MAG



DEMAG



AN INCOMPARABLE EXPERIENCE

The know-how acquired in different application sectors led Tecnomagnete to develop a new patent identified as **Quadsystem MONOLITE**, that allows to introduce into the market a new generation of magnetic devices characterized by solid block structure with no assembled mechanical components.

Machined by solid process, the poles comes integral with the frame and can absorb heavy duty operations keeping absolutely stable conditions without any deflection.

The clamping surface is fully metallic, without any sealing resin and any filling part.

The polar geometry with round poles allows a optimal distribution of the magnetic area, with free zones available for additional machining operations to insert high accuracy bushes for side stoppers, specific references or to make hybrid clamping surface.

The monolithic technology

The honeycomb construction allows to generate clamping systems with high sturdiness, limited thickness and reduced weight, thus obtaining the best performances from the machines.

A single surface not penetrable

The uniform metallic surface, full steel, without any insert, makes it a mechanical shield impossible to penetrate thus creating a permanent protection for the electric circuit and the permanent magnets built in the inner area.

Long durability with no pollution

The absence of assembled and moving parts and the metallic surface allow the product not requiring a specific maintenance program. Reliability will be granted over the time and all components can be 95% recyclable.





With **MillTec**

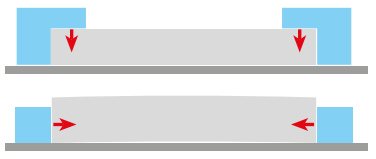
maximum flexibility and productivity

The **Quadsystem MONOLITE** technology, implemented in the new generation of magnetic systems for milling applications MillTec, allows to offer a wide range of strong and safe magnetic modules suitable for a wide variety of both high speed and heavy duty machining operations.

The **MillTec** modules are the ideal solution for applications both with vertical and horizontal axis on gantry and on moving table or travelling column bed milling machines, on machining centers, on pallets, right angles and tombstones on FMS systems.

Beyond the traditional limits

When clamped with brackets and wises, workpieces are never fully accessible and multiple setups are needed to complete the machining cycle.



Uniform clamping

With MillTec the clamping force is uniform on the entire contact surface, with no compression and deformation of the work piece. This means less vibrations during machining, better finishing, longer tool lifetime and less mechanical stress to machine parts and components.



With **MillTec**, the workpiece is always fully accessible on 5 faces thus allowing the full machining in one setup, improving the tool path in all machining operations (face-milling, contouring, milling and drilling). Set up and change over times are drastically reduced even with gang multiple work pieces.

Mobile pole extension

Self shimming and quick stress release on work pieces of any dimension have been always a great advantage given by the Tecnomagnete flexible clamping systems. The new generation independent mobile pole extensions RMP make such operations even more simple and practical. Their round shape and the integrated threaded pin allow an easy and quick positioning without any tool and any possibility of mistake.

The RMP pole extensions design does not permit any chip or any dust to penetrate inside, thus granting the best possible and constant performances even without any cleaning and maintenance.



International patent WO 2009/007807

The integrated double slant surface mechanism allows a better flux transmission with a 20% improvement of the magnetic performances compared to traditional pole extensions with single slant surface.



Automatic shimming system

Fixed pole extensions

Fixed pole extensions with different heights and integrated threaded pin are available to raise the work piece, to carry out contouring and through drilling operations, preserving at the same time the magnetic clamping surface.

Electrical connections

MillTec modules are equipped with new waterproof fast connectors **ERGON** series. Fixed connections can be provided to assemble magnetic tables.



Pole extensions with recess

Their designed has been studied to grant a reduced flux depth into the piece, specifically to clamp thin parts (over 10 mm).

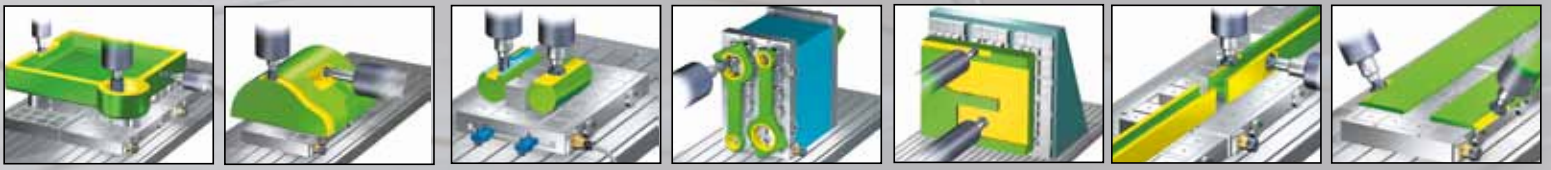
Dedicated polar top plates

Dedicated polar top plates are available to create clamping surfaces shaped according the profile of work piece to be machined.



MTA - Autoclamp Version

The Autoclamp version (available on request) presents a double magnetic surface for self-fixing on the machine table. It grants perfect stability and uniform clamping between the piece and the machine.





TECNOMAGNETE®

All the magnetism of the leader

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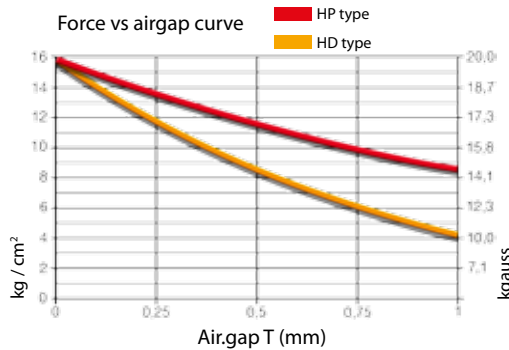
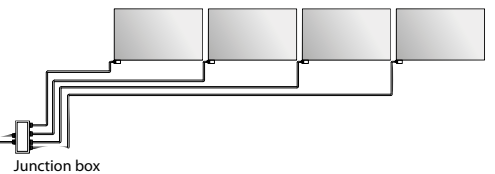
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Distributor



Modularity for any need

The wide range of standard MillTec modules is ideal to configure different magnetic tables both on fixed layouts and pallet systems, horizontal and vertical. Modules can be fixed through the dedicated side slots or with through holes that can be drilled in the solid block structure of the chuck. HD (high density) versions are available for standard machining operations, while HP (high power) versions are available for heavy duty machining operations with substantial air-gap conditions.



Technical characteristics

- Up to 16 kg/cm² in active magnetic area
- Over 75 Ton/m² in workpiece contact area
- Force: 615 kgf/pole
- 2 lateral slots to fix on machine table
- Thickness:
 - 2 in. (HD version) • 2.59 in. (HP version)
- Magnetic flux depth: 0.67 in.

Standard dimensions MillTec

Version HD	Dimensions (in)	Weight lbs	Poles n°
MT 304	12.59 x 16.7	110	12
MT 306	12.59 x 24	155	18
MT 308	12.59 x 31.5	220	24
MT 310	12.59 x 38	265	30

MT 404	15.95 x 16.73	155	16
MT 406	15.95 x 24	200	24
MT 408	15.95 x 31.5	265	32
MT 410	15.95 x 38	308	40

HP Version: same sizes, weight approx +30%

Electronic control units

ST series electronic control units are equipped with current (UCS) and cycle status control systems. They have been designed for quick activation and deactivation cycles, to save power consumption, to limit electromagnetic emissions and grant long reliability in time. A RS232 connector is located on the back side, to interlock with machine PLC.

The ST100 version at 230V is compact and light, is built with integrated push button. The ST200 version, available from 200V to 400V, is suitable to control modules of large dimensions and is equipped with the practical TC remote pendant. The ST200 is also used to control tables with multiple chucks, equipped with TCF pendant that allows to select each MillTec module independently.

Version HD	Dimensions (in)	Weight kg	Poles n°
MT 504	19.1 x 16.7	175	20
MT 506	19.1 x 24	240	30
MT 508	19.1 x 31.5	308	40
MT 510	19.1 x 38	375	50

MT 606	22.44 x 24	285	36
MT 608	22.44 x 31.5	375	48
MT 610	22.44 x 38	440	60