

# QUAD<sup>®</sup> EXTRA

*in the sign  
of the Evolution*

**NEW**

**Permanent Electro  
Magnetic Chucks  
for high quality  
milling**

- *innovative and high performing*
- *safe and reliable*
- *light and sturdy*



**TECNOMAGNETE<sup>®</sup>**  
Safety through power



## *The evolution of the species*

The **QuadSystem** patent deposited by Tecnomagnete at the beginning of the 80s has represented a milestone for the magnetic work holding on machine tools combining for the first time **power and safety**.

Through the years Tecnomagnete has acquired the worldwide leadership in this sector with an unique know how being now exploited with the **new series of permanent electro Quad Extra chucks**.

The innovative characteristics of **Quad Extra** chucks allow to give the final answer to all the needs of quality machining granting higher:

### **Robustness**

### **Accuracy**

### **Reliability**

The great flexibility and practical use permit to achieve the highest production efficiency with the typical advantages of permanent electro magnetic work holding:

- no power supply during machining
- uniform clamping
- no vibrations
- 5 sides full machining with one setup
- full use of machine strokes
- quick work piece setup
- self shimming
- no maintenance



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### **The new QX series technology**

represents the most updated solution for magnetic work holding on machine tools with a perfect synergy among the work holding system, the tool, the machine and the operator.

**The modern design** and the high quality components has allowed the improvement of the magnetic performances, the reduction of weight and thickness, the increase of sturdiness and reliability.

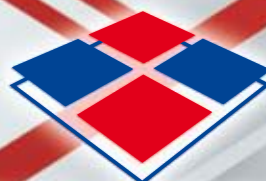
**The intrinsic safety** is granted by the permanent electro magnetic circuit, with the electric power needed only for few seconds to activate and deactivate the chuck and with the work piece clamped only by the power given by the high energy permanent magnets.

The clamping surface is made of steel and resin and the **"double grid"** polar layout allows to get closer magnetic stitches for a better clamping of small parts.

QuadExtra series have wider **drillable areas** to customise the chuck according to specific needs, and **threaded holes** for fixing the pole extension with **more accurate pitch and higher depth** and compatible with most of existing systems.

The new Push -Pull fast connectors are practical and compact.

The new QuadExtra chucks are built with **multi Voltage** technique and can be fed by different ST type control units, according to the available power supply.



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## A modern and innovative solid block design (registered patent)



The magnetic area is made of a modular polar plate machined from a solid block, and is fixed with special high resistance screws to the main body which is also built in a monoblock construction. The area with coils and the electric circuits is protected mechanically, in addition to the insulation given by the high resistance resin. The lean design with no other fixing parts grants a **"Full proof"** seal in addition to an **absolute mechanical stability and reliability**.

### HD 50 version

High polar density  
For milling small / medium size pieces with limited thickness

Nominal pole dimension:	50 mm
Force/pole in contact:	400 daN
Short circuiting dept:	12 mm
Polar pitch:	60,2 mm

### HD 70 version

High polar density  
For milling small / large size pieces with higher thickness

Nominal pole dimension:	70 mm
Force/pole in contact:	780 daN
Short circuiting dept:	17 mm
Polar pitch:	85,2 mm

## Double action and high performance RMP type mobile pole extensions (registered patent)

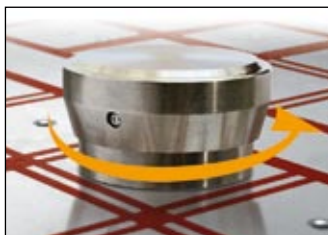


An innovative and **very practical** solution for any shimming need on rough or deformed surfaces.

The new round mobile pole extensions RMP type are made of a solid block structure with 2 twin steel parts made by precision castings moving inside on a slant surface and acting on the upper cover that is in contact with the work piece.

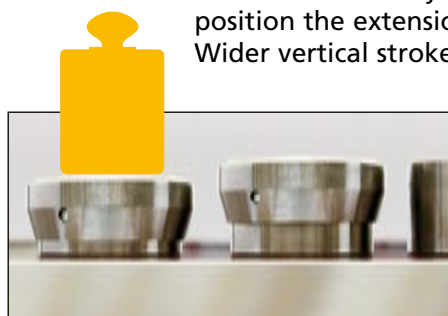


Thanks to the integrated threaded pin, the pole extensions can be fixed quickly and with a simple rotation, reaching always the ideal working position without any need of specific orientation.

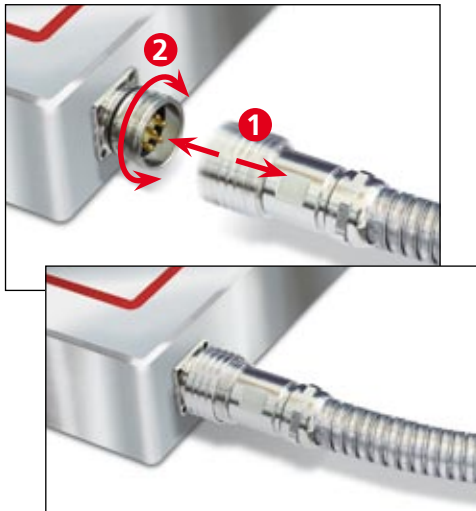


The innovative design avoids any possibility for chips and dust to go into the pole extensions, thus no clearance or air gap that can downgrade the magnetic performances. No interference with nearby extensions. No need to

position the extensions with specific orientation. Wider vertical stroke up to 7 mm.



The RMP pole extensions increase up to 20% the magnetic performances and represent the essential solution to speed up the work piece positioning.



### Fast connector

The new PPC fast connectors are extremely compact and easy to use. The waterproof connectors are very simple to plug in/out.



### ST series electronic control units

QuadExtra chucks are supplied with the new **ST100** and **ST200** control units. The voltage coming out from these control units is limited to 230V to reduce the electromagnetic interference and the power consumption and to increase the reliability.

The **ST100** model is available with 230V Power supply Voltage and has compact dimensions, a renewed push button panel and a RS232 connector for machine interlock on the back.

The **ST100F** model can feed HD version chucks, while the **ST100R** model is designed for HN version chucks and has 3 levels power control system.



The **ST200** model is available with different Power supply Voltages from 200V to 480V and is recommended to feed large size chucks or magnetic tables made of multiple chucks; the **ST200F** models can feed any HD chuck, while the **ST200R** model is designed for HN chucks and has a power control system on 8 levels.

All **ST200** units are supplied with standard remote control panel and RS232 connector for machine interlock.

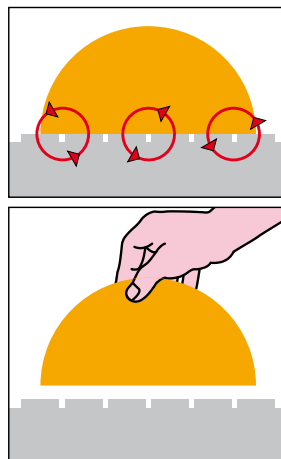


The **R** models provide the Nuflux circuit to fully remove any residual magnetism on any alloyed steel.

### HN 70 version

High polar density Nuflux  
For high speed milling on alloyed steel

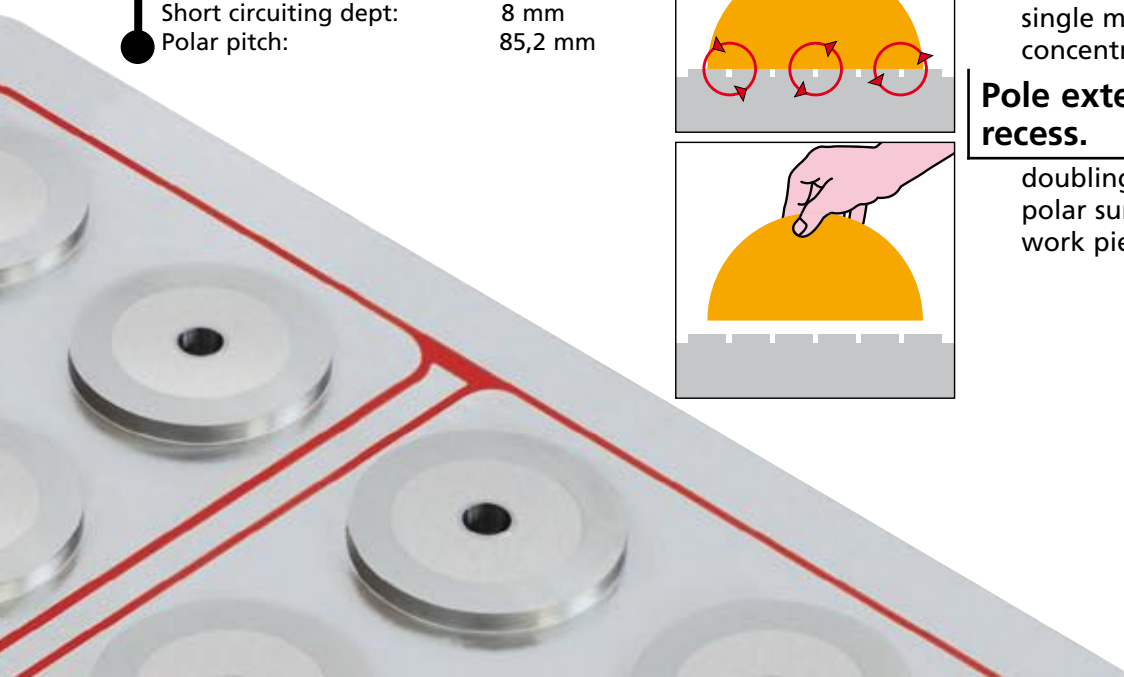
Nominal pole dimension:	70 mm
Force/pole in contact:	200 daN
Force/pole on fixed extensions with recess (approx area 24 cm <sup>2</sup> ):	350 daN
Short circuiting dept:	8 mm
Polar pitch:	85,2 mm



This special type of pole extensions when installed on single magnet HN chucks allow to concentrate the magnetic flux

### Pole extensions with recess.

doubling the force/cm<sup>2</sup> on the polar surface in contact with the work piece.

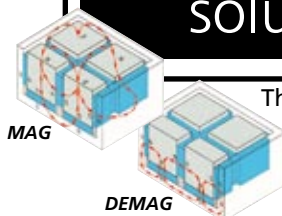






## A world of magnetic solutions

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, moulds 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.**

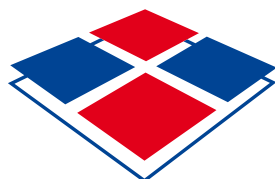
We reserve the right to make changes related to the technological progress.

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