



Partac MAGNET

Paya Magnetism Partac



knowledge based



Isfahan Science & Technology Town (ISTT)



Design, Manufactureing and Mroduction of industrial Magnetic Equipment

The Only Manufacturer of Electropermanent Magnet Systems in Iran

www.partacmagnet.ir

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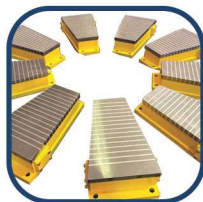


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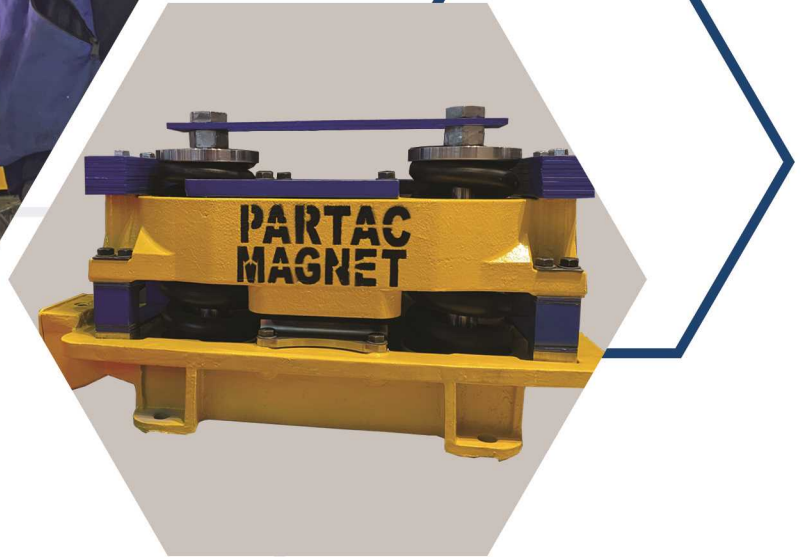
About us

The members of Partac Magnet Company began their activities in the steel industry in 2013. The gap in the quality of industrial magnets prompted the company to focus on the design and production of industrial magnets. Therefore, Paya Magnetism Partac Company was established in 2019 at the Isfahan Science and Technology Town (ISTT).

Today, Paya Magnetism Partac is one of the Iranian leading providers in the design and manufacture of a wide range of industrial magnetic equipment, including lifting magnets, magnetic chucks, magnetic brakes, magnetic couplings, magnetic separators, and magnetic vibrators.

Utilizing the latest global technologies and producing high-quality products has always been the main priority of our company. Paya Magnetism Partac, a knowledge-based company is the first manufacturer of electro-permanent magnetic systems in Iran.

Why? Partac Magnet



- **Achieving Technical Knowledge**

The presence of experienced experts in electrical, mechanical, and physics fields, alongside specialized consultants, has gradually built a strong foundation of knowledge within the company.

- **State-of-the-Art Technology**

Utilizing the technical proficiency of its expert team, Paya Magnetism Partac has adopted the latest innovations in industrial magnet technology. Partac Magnet solidifying its status, as a knowledge-based enterprise by Producing electro-permanent magnetic chuck and electro-permanent magnet liftings.

- **Quality Assurance**

All magnetic equipment manufactured by the company meets international standards and undergoes various NDT procedures, such as tensile force and welding tests, to ensure maximum reliability and performance.

- **Research and Development**

The involvement of technical and academic consultants alongside the company's expert team has led to the continuous improvement of quality and the production of a wide range of industrial equipment. The R&D team consistently try to enhance the quality of equipment in line with the latest global technology.

- **After-Sales Service**

To ensure long-term satisfaction and sustained operations, all products is provided with 6-month warranty and 10 years after-sales service.

- **Technical and engineering services**

Partac offers expert consultation and custom engineering solutions for the design and manufacture of various magnetic equipment. Additionally, the company provides technical solutions for electrical issues related to cranes.

Electro Lifting Magnet(EM)



Electro lifting magnets are the most common type of lifting magnets. In this type of magnet, a coil is wrapped around an iron core. As the current passes through the coil, magnetic flux is generated. This type of magnet is used to handling ferrous materials such as steel slab, steel billet and steel scrap. Our Electro lifting magnets has a 2.5:1* safety factor (according to the EN13155).

Design
Manufacturing
& Production
of Magnetic
Equipment

Paya
Magnetism
Partac

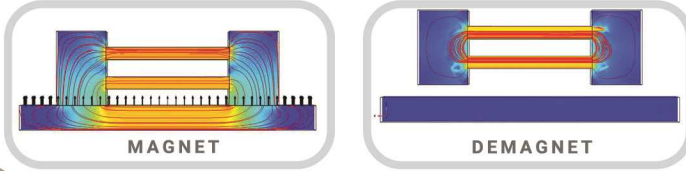


| Model | Diameter (mm) | Rated Power (kW) | Approx. Weight (kg) | Capacity(kg) | | | |
|--------------------------|---------------|------------------|---------------------|--------------|----------|-------------|-------------|
| | | | | Slab | Pig Iron | Heavy Scrap | Light Scrap |
| EML 800-C EML 800-H | 800 | 3 | 600 700 | 7000 | 340 | 135 | 80 |
| EML 1000-C EML 1000-H | 1000 | 5 | 850 950 | 11000 | 430 | 270 | 155 |
| EML 1300-C EML 1300-H | 1300 | 7 | 1600 1750 | 20500 | 900 | 510 | 295 |
| EML 1500-C EML 1500-H | 1500 | 14 | 2300 2550 | 25500 | 1450 | 760 | 420 |

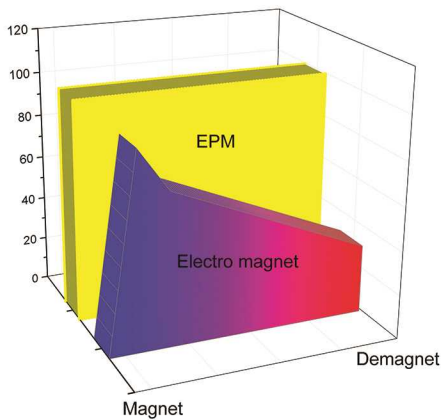
Electro Permanent Magnet (EPM)

Paya Magnetism Partac Company proudly stands as the sole manufacturer of Electro Permanent Magnet Lifting (EPM) in Iran. Our EPM are manufactured using the latest global technologies, ensuring maximum performance and reliability.

EPMs can be on or off using an electrical pulse. In this lifting magnets, hard magnets generate a constant magnetic field, while soft magnets adjust their field direction in response to an electromagnetic field. Below is an illustration demonstrating the operation of our EPM technology.



BENEFITS



High Energy Savings:

EPM consume over 95% less energy compared to electromagnets, as they use electrical current for only a few seconds during magnetization and demagnetization.

Maintenance Free:

The absence of thermal losses in the coil reduces maintenance and repair expenses, making EPMs a cost-effective choice.

choose our Electro Permanent Magnet Liftings for a reliable, energy-efficient, and cost-effective solution in your industrial applications.

No Backup Batteries Necessary:

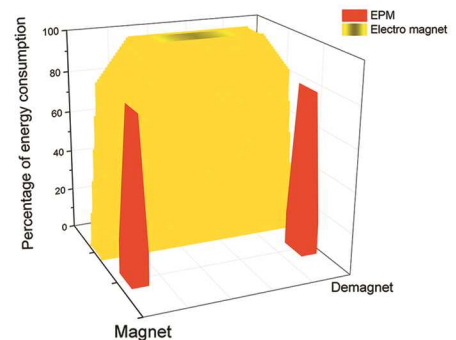
EPMs do not consume electricity during operation, eliminating the need for expensive backup batteries.

High Safety:

Electro Permanent magnet's design ensures that loads remain secure during power failure, as electrical current is only used during magnetization and demagnetization.

Constant strength:

Unlike electrical magnets, which require continuous current and experience thermal losses, EPM use current only during magnetization and demagnetization, thus EPM remain cool and doesn't experience any thermal losses.



Electro Permanent Magnet liftings

Paya Magnetism Partac provides Electro permanent Magnet liftings according to DIN EN 13155 standards. Our EPMs are available in following models. Each offered in two series: Low temperature Series (for handling loads up to 100°C) and High temperature Series (for handling loads up to 400°C).

Available Models

EPM-SH

For handling thick slabs and forged blocks.



EPM-SL

For handling plates or semi-finished blocks



EPM-SHEET

For handling sheets



EPM-BILLET

for handling layers of billets



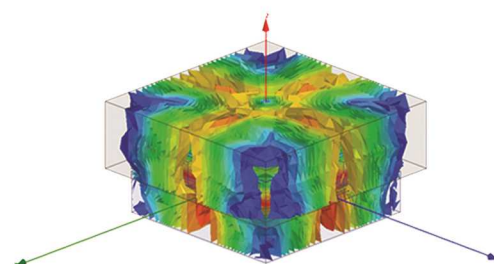
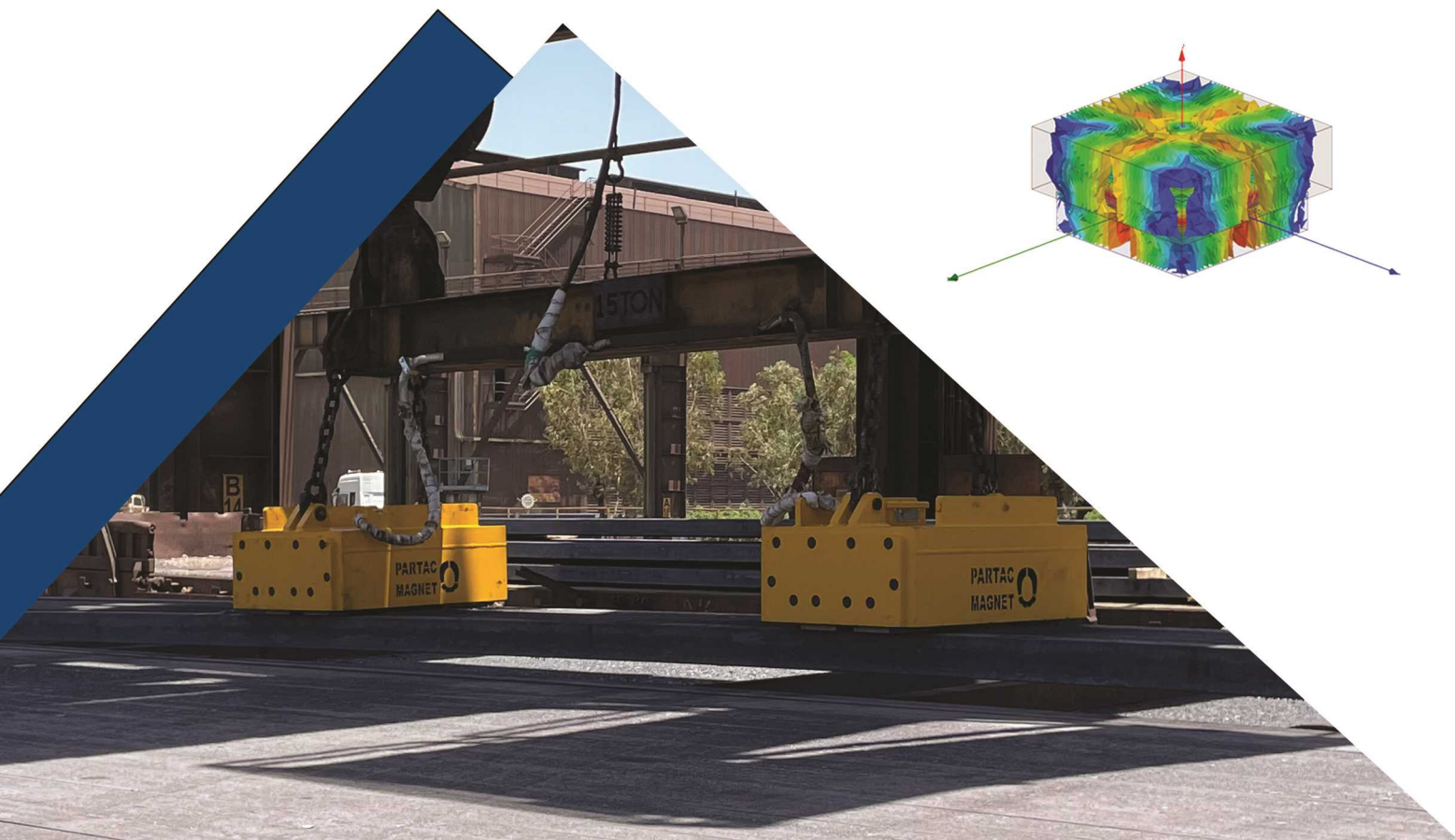
EPM-PIPE

For handling layers of tube, shaft and round load



Custom-designed

we also offer custom-designed for specific operational conditions



- **Optimized Design:**

maximizing efficiency by minimizing dimensions, weight, and electricity consumption to extend equipment lifespan.

- **Compliance and Certification:**

Manufacturing and testing According to FEM1.001 and DIN EN 13155 standards. Welding certificates available upon request.

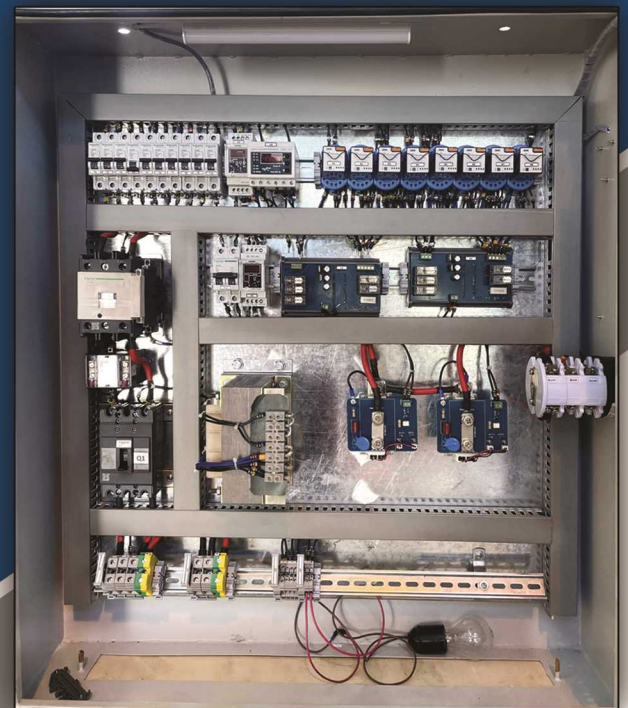
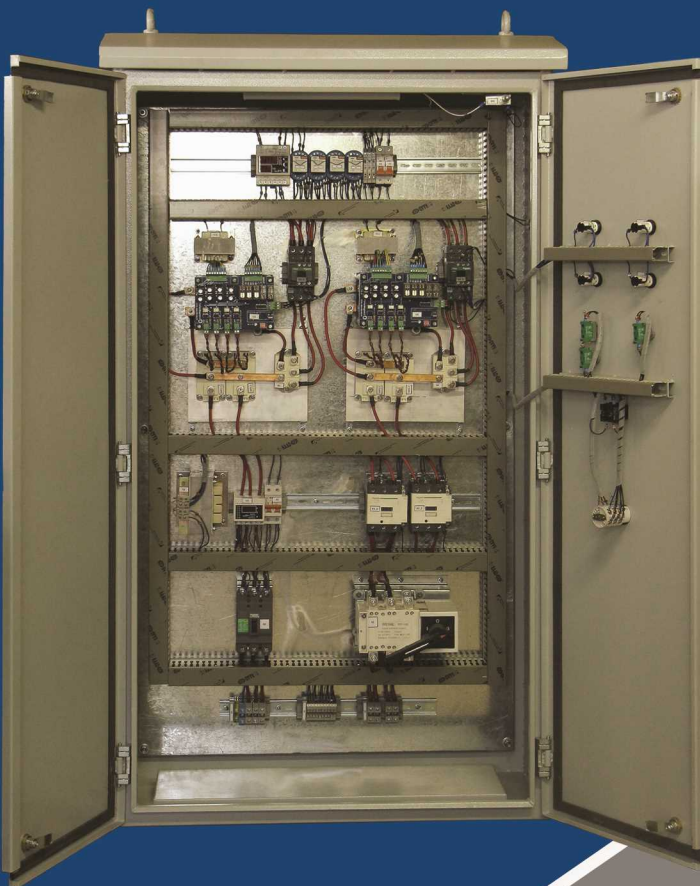
All lifting magnets designed with a minimum safety factor of 3: 1

- Equipped by overcurrent protection and undervoltage protection.
- short time Magnetization process (a few seconds/ under 2 seconds)

- **Hot Spare Control unit:**

Control unit Includes a dual-part switch-board that minimizes downtime by integrating a Hot Spare to handle control or power section failures.

- Utilizes High-Quality electrical Compo-



**Made In
IRAN**

Magnetic Separator

The presence of small steel fragments in the product flow can lead to significant operational issues, such as system stoppages and financial losses. Installing a magnetic separator in the product flow path effectively prevents such problems by removing these contaminants before they reach critical processing stages.

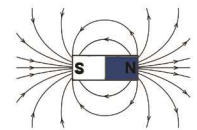
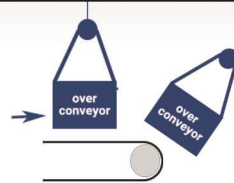
Paya Magnetism Partac manufactures a wide range of magnetic separators, including drum magnets, over band magnetic separators, suspended block magnets, magnetic head pulleys, chute magnets, magnetic filters, magnetic head pulleys, clean flow magnets and etc.

Overband Magnetic Separator

Capture Particles from 1 mm



Magnet



Cleaning

manual Cleaning
automatic Cleaning

Different dimensions

Suitable for belt width
400-1600 mm

Mounting position

inline
cross

Magnetic field source

Magnet
electromagnet

Magnetic Drum

Capture Particles from 30 mm



Different Sizes

Diameter:
150 ~ 2000 mm
Length:
200 ~ 2000 mm



Powerful Strength

Magnetic Density on
Drum Surface:
1200 ~ 8000 Gauss



Different Types

Wet Drum Magnets
Dry Drum Magnets



Different Applications

Recycling
Filtering
Concentration

Magnetic Vibrator



In some of industrial processes involving with material flow—such as transfer, screening, compaction, drying, cooling, and heating—vibration is often necessary. Vibrators provide directional oscillations to the product flow and are used across various industries, including food processing, pharmaceuticals, steel industry and etc.

Magnetic vibrators convert magnetic forces into mechanical vibrations. Key advantages of magnetic vibrators include:



**Immediate
Start/Stop
After Swiching**



**Bearing free
design and
robust construction**



**Available in
Different frequencies**



**Fine tuning
Vibration amplitude**



**Delay - free
Power
transmission**

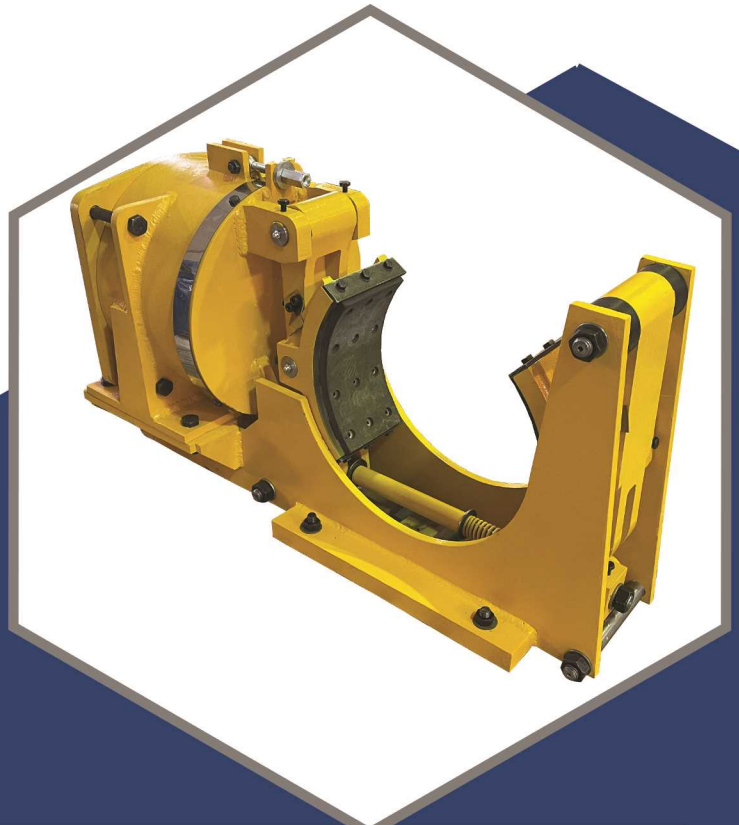
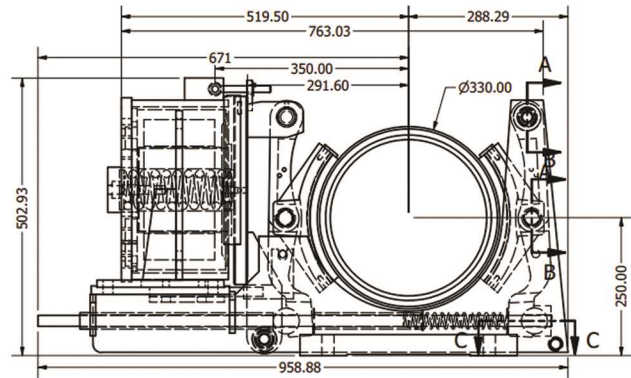
Electromagnetic Vibrator

| | |
|---|--------------------|
| Model | MV50-4s |
| Mains Voltage (controller input) [VAC] | 380-420 |
| Rated Current [A] | 21 |
| Active Power [W] | 300 |
| Protection to EN 60529 | IP 54 |
| Working Weight [Kg] | 180 - 450 |
| Vibration Amplitude [mm] | 2.05 – 1.05 |
| Approx. Weight [Kg] | 310 |

Magnetic Brake Clutch

Magnetic clutches and brakes using magnetic force to control movement and torque in mechanical processes. Magnetic brakes are used in many industries such as aerospace and defense applications, robotics, medical systems, cranes, electrical motors, and etc. Paya Magnetism Partac specializes in the manufacture, production, and repair of all types of magnetic brakes. The unique features of magnetic brakes offer several advantages over traditional braking systems, including:

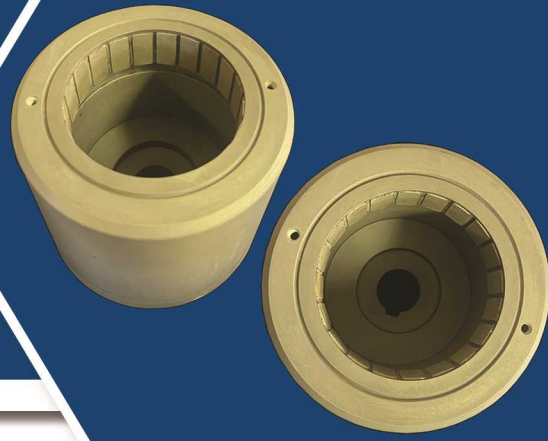
- Enhanced performance and fast action
- precise engagement
- available in a variety of sizes
- available in 2 types (disc type and drum types)
- Torque Range up to 2500 N.m
- Improved heat dissipation
- Improved brake efficiency
- less maintenance
- longer lifespan
- low cost



Drum Magnetic Brake

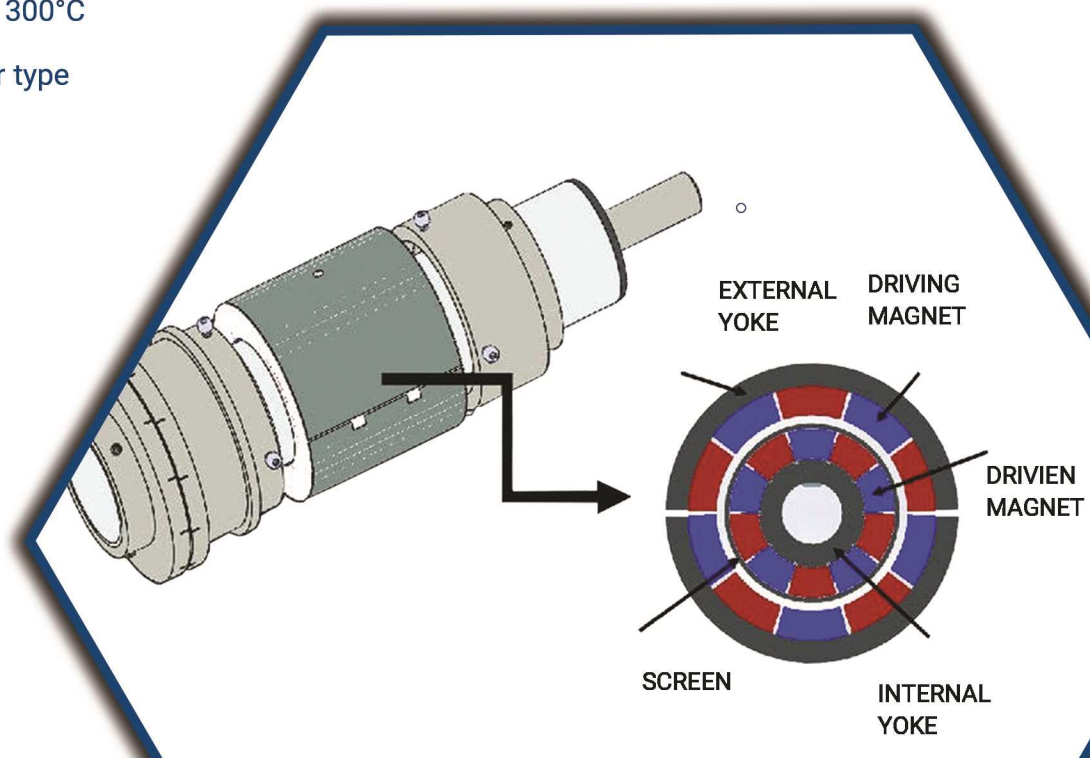
| Type | Diameter (Inch) | Max. Torque (N.m) | Voltage (VDC) |
|---------|-----------------|-------------------|---------------|
| MB-D-13 | 13 | 600 | 180 |
| MB-D-16 | 16 | 1100 | 180 |
| MB-D-19 | 19 | 2500 | 180 |

Magnetic Coupling



Magnetic couplings are advanced non-contact devices which transfer torque between drive and driven shaft through a magnetic field. magnetic couplings effectively transmit torque without physical contact, making them ideal for transferring corrosive, toxic, or flammable fluids. Unlike mechanical couplings, magnetic couplings automatically slip when the torque exceeds the permitted limit, preventing further transmission and protecting the system from damage.

- Suitable for Harsh Industrial Environments
- Enhanced Durability
- Reduced Vibrations during startup
- Torque range: Up to 3000 Nm
- Working Temperature: Up to 300°C
- Available in torque and linear type



Demagnetizer

Demagnetizers are essential tools used to eliminate residual magnetism from ferromagnetic objects. The presence of residual magnetism can cause several manufacturing challenges, such as interference with welding processes and disruption of critical systems like navigation equipment and bearing operations.

TUNNEL DEMAGNETIZER

- Supports both individual and group demagnetization
- Suitable for installation in automated processes

PORTABLE DEMAGNETIZER

- Suitable for various object with large dimensions
- High-speed operation for efficiency
- Easy to transport and install

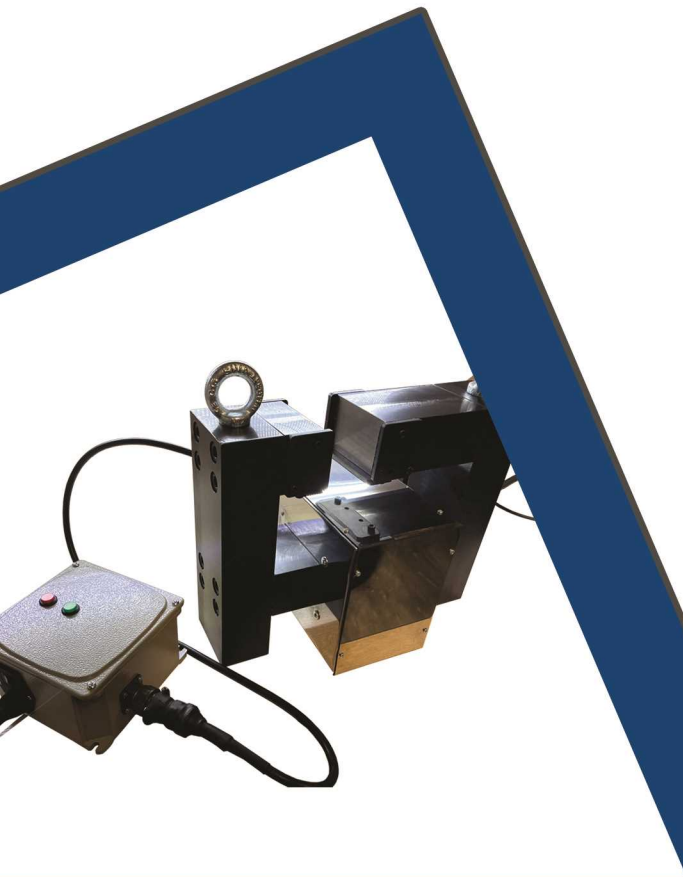


Portable Demagnetizer

| Type | Portable |
|--|---------------------|
| Application | Shaft Demagnetizing |
| Max. Permitted Diameter of shaft | 15 cm |
| Protection Class | IP52 |
| Input Voltage | 380 VAC/3PH/50Hz |
| Max .Demagnetization Time | 5 min |
| Max .Remaining Magnetic Flux after Demagnetization | 100 Gauss |

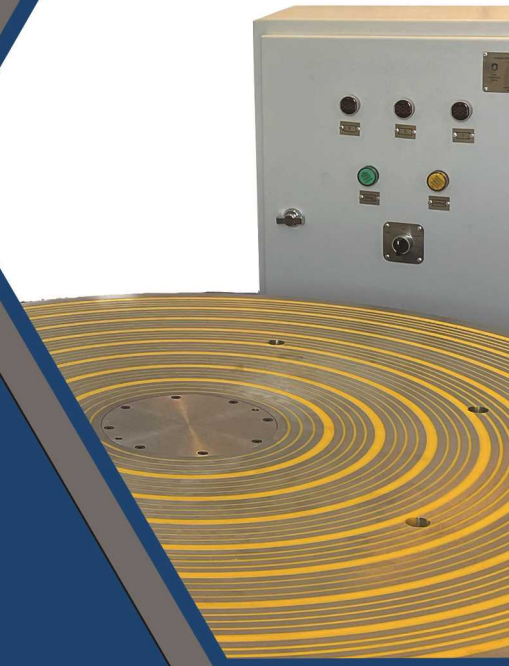
Magnetizer

Magnetizers create or enhance magnetic properties in ferromagnetic parts. They employ a high-intensity DC magnetic field to align magnetic domains. Commonly used in industries such as magnetic motor production and screwdriver manufacturing, Partac Magnet offers magnetizers in tunnel and C-shaped models.



Electromagnetic Chuck

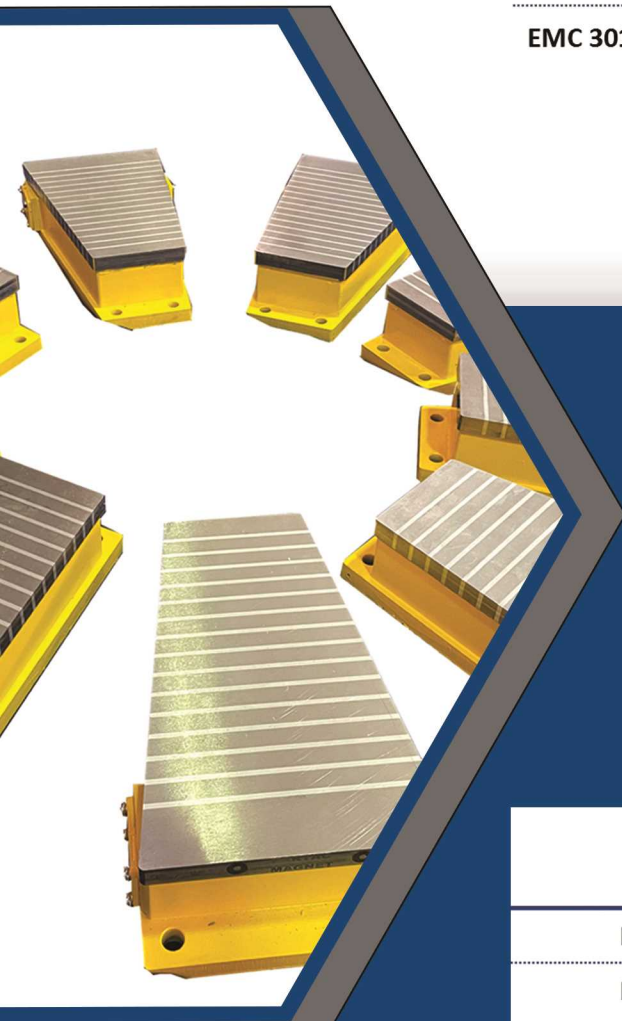
Paya Magnetism Partac offers high-performance Electro-Magnetic Chuck (EMC) specifically designed for grinding applications. Our EMCs feature robust insulation and exceptional durability, ensuring long-lasting performance. These chucks need a constant supply of current in order to operate. ElectroMagnetic Chuck (EMC) is available in flowing models:



| Model | Width (mm) | Length (mm) | Height (mm) | Current (A) | Voltage (V-DC) |
|-----------|------------|-------------|-------------|-------------|----------------|
| EMC 3060 | 300 | 600 | 90 | 1 | 110 |
| EMC 3080 | 300 | 800 | 90 | 1.3 | 110 |
| EMC 30100 | 300 | 1000 | 90 | 1.6 | 110 |

Permanent Magnetic Chuck

Permanent magnetic chuck (PMC) are ideal for machining workpieces with small thickness and cross-sections. Partac Magnet designs PMCs utilize powerful neodymium magnets, offering higher clamping force compared to other Permanent Magnetic Chuck.



| Model | Dimension (W x L) | Pole Pitch |
|---------|-------------------|------------|
| PMC2040 | 20x40 | 2+4 |
| PMC3060 | 30x60 | 14+4 |

EPC Chuke

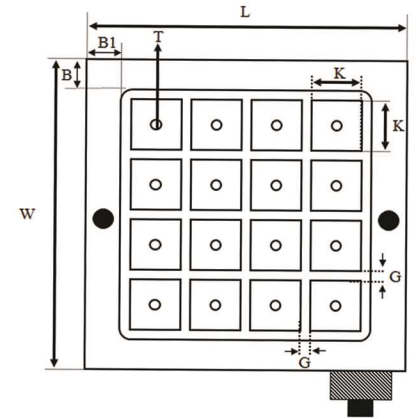
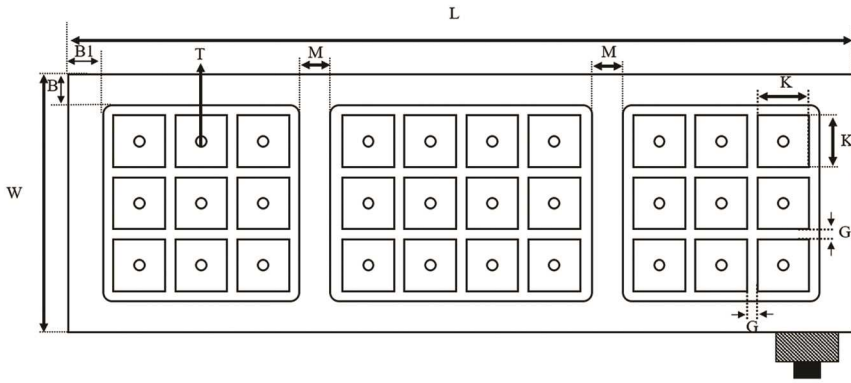
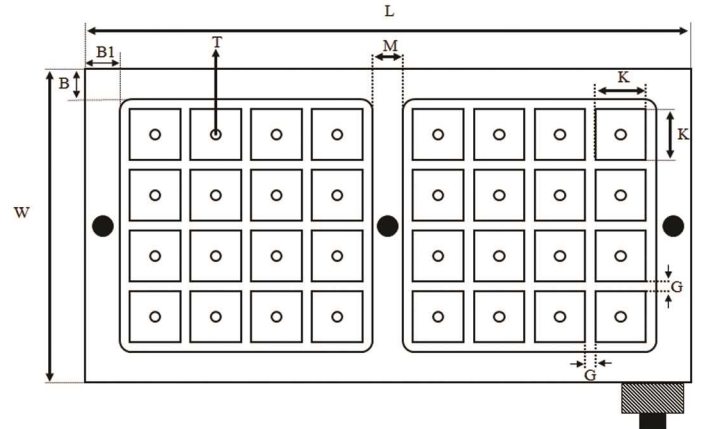
Electro Permanent magnetic chuck are the most powerful magnetic chucks available. These types of magnetic chuck only require electrical power during the on and off phases, and there is no need for a continues power supply during machining. This design improves operational efficiency and machining performance while minimizing residual magnetism in workpieces, thus boosting profitability for manufacturers.

Benefits of Electro Permanent Magnetic Chuk (EPC)

- Higher strength (up to 1200kg/100cm²)
- Adjustable Magnetic Force
- Constant & uniform clamping
- Improved safety
- Enhanced Operator Efficiency
- Adapts perfectly to the contours of the workpiece
- Creating through holes is possible



EPC Models



Inputrotage : 230 V / 1Ph

Unit : mm

Maximum tear force: 1200kg / 100cm²

| Model | W | L | B | B1 | M | G | K | T | Pole Arrangement | Poles |
|---------|-----|-----|----|----|-----|----|----|----|---------------------|-------|
| EPC2020 | 200 | 200 | 35 | 35 | --- | 10 | 50 | M8 | 2x2 | 4 |
| EPC2026 | 200 | 260 | 35 | 35 | --- | 10 | 50 | M8 | 2x3 | 6 |
| EPC2032 | 200 | 320 | 35 | 35 | --- | 10 | 50 | M8 | 2x4 | 8 |
| EPC2060 | 200 | 600 | 35 | 35 | 30 | 10 | 50 | M8 | 2x4+2x4 | 16 |
| EPC2088 | 200 | 880 | 35 | 35 | 30 | 10 | 50 | M8 | 2x4+2x4+2x4 | 24 |
| EPC2532 | 250 | 320 | 30 | 35 | -- | 10 | 50 | M8 | 3x4 | 12 |
| EPC2560 | 250 | 600 | 30 | 35 | 30 | 10 | 50 | M8 | 3x4+3x4 | 24 |
| EPC2568 | 250 | 680 | 30 | 35 | 30 | 10 | 50 | M8 | 3x2+3x2+3x2+3x2 | 24 |
| EPC2575 | 250 | 750 | 30 | 35 | 30 | 10 | 50 | M8 | 3x3+3x4+3x3 | 30 |
| EPC2585 | 250 | 850 | 30 | 35 | 30 | 10 | 50 | M8 | 3x2+3x2+3x2+3x2+3x2 | 30 |
| EPC3032 | 300 | 320 | 25 | 35 | --- | 10 | 50 | M8 | 4x4 | 16 |
| EPC3044 | 300 | 440 | 25 | 35 | --- | 10 | 50 | M8 | 4x6 | 24 |
| EPC3060 | 300 | 600 | 25 | 35 | 30 | 10 | 50 | M8 | 4x4+4x4 | 32 |
| EPC3085 | 300 | 850 | 25 | 35 | 30 | 10 | 50 | M8 | 4x2+4x2+4x2+4x2+4x2 | 40 |
| EPC4360 | 430 | 600 | 30 | 35 | 30 | 10 | 50 | M8 | 6x4+6x4 | 48 |

