MAGNOS MFPS

Powerful Magnetic Chucks for thin and narrow Workpieces

Superior Clamping and Gripping

SCHUNK

MAGNOS MFPS

General information

- Even permanent magnetic clamping force over the entire workpiece
- Low vibration clamping
- Deformation-free clamping
- High lateral holding forces
- Patented status display
- Mono-block design
- Clamping within a few seconds
- Unique energy supply for MAG/DEMAG process
- Control unit compatible with machine control system

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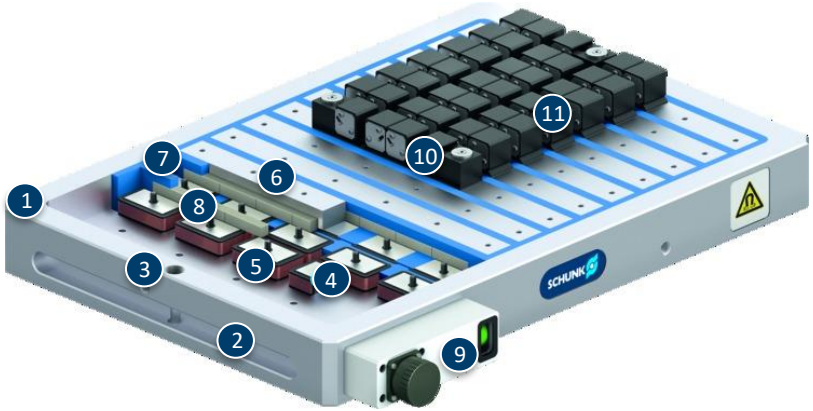
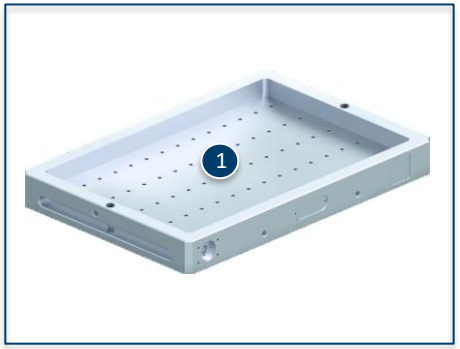
Functional diagram

1. Solid base body
2. Mounting groove
3. Fastening bore
4. Invertible AlNiCo magnets
5. Coil body, insulated version
6. Steel pole
7. Synthetic resin grounting
8. Neodymium magnets
9. Connection housing with status display
10. Fixed pairs of pole extensions
11. Flexible pairs of pole extensions



MAGNOS MFPS

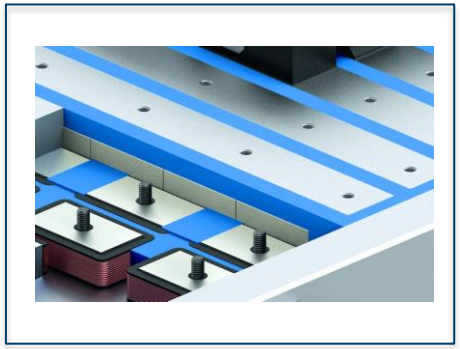
Highlights



Solid base body

The stable base body is made in monoblock design in the latest machining centers. Its stability, rigidity and robustness prevent vibrations from forming in later operation, thus ensuring outstanding machining results, and a long service life.

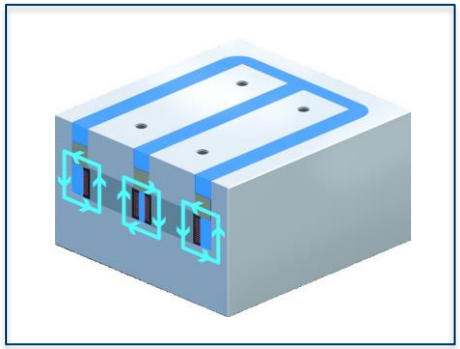
1 Monoblock design of the base body



Synthetic resin filling

The synthetic resin filled under vacuum guarantees an unique insulation and magnetic life span of each plate. By means of this special high-end sealing process, the spaces between the poles are filled with high-strength synthetic resin.

→ Protection from corrosion



Magnetic double cycle – DEMAG status

The reversible-polarity magnets are reserved again by a further pulse. This „short-circuits“ the magnetic field inside the magnetic chuck and releases the workpiece.

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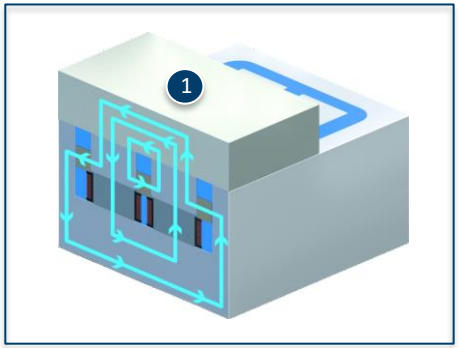
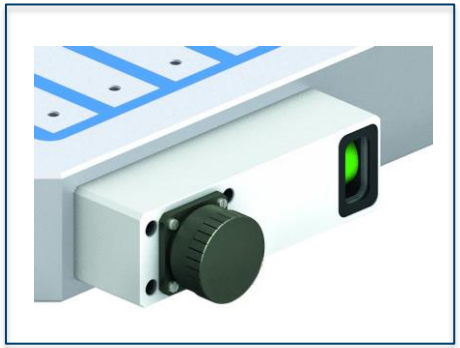
Highlights



Magnetic double cycle – MAG status

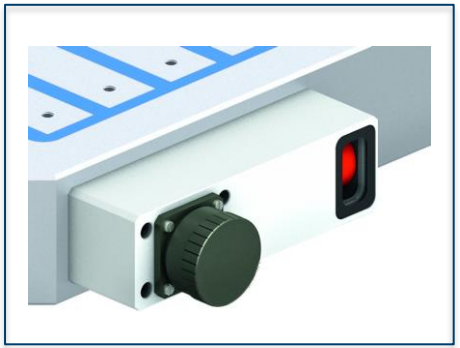
These are reversed by short-term generation of an electromechanical field resulting from the windings around the reversible-polarity magnet. As a result, the magnetic field is directed outward and the workpiece is clamped on the magnetic chuck.

1 Workpiece



Visual display – MAG status

The magnetic chuck in the MAG-Mode is green on the status display. That means that the workpiece is clamped and the machining may be started.



Visual display – DEMAG status

The magnetic chuck in the DEMAG-Mode is red on the status display. That means that the workpiece is not clamped and the machining may not be started.

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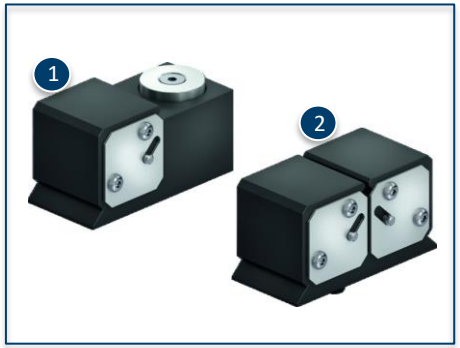
Highlights

Pole plates

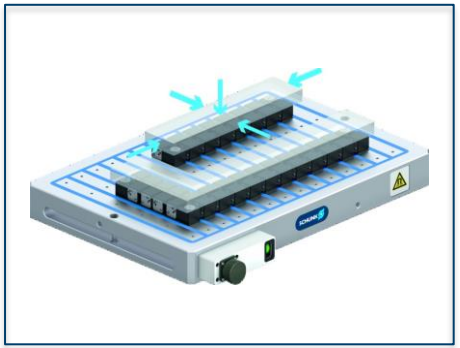
Pole plates are used for ensuring that the customer can mill the contours and special shapes. This allows the magnetic chuck to be quickly and easily adjusted to new clamping tasks without causing and damage to the magnetic chuck itself.



Pole extensions – pole pairs

Pole extensions ensure that the magnetic chuck locating surfaces are adapted naturally to the workpiece.

1. Fixed pole extensions
2. Flexible pole extensions



5-sided-workpiece machining in one set-up

As the workpieces can be placed flat onto the MAGNOS magnetic chuck, all five sides of the workpiece can be easily accessed and machined in one single setup.

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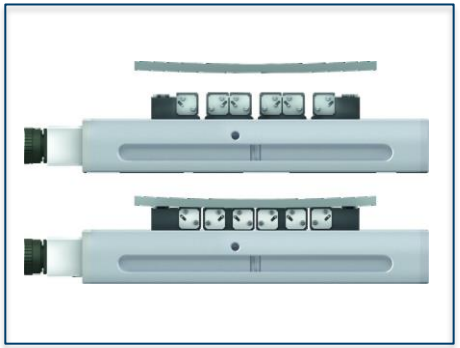
Highlights

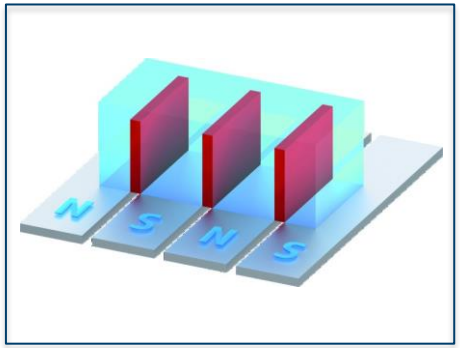


Adapts perfectly to the contours

Workpieces of any structure can be perfectly clamped with MAGNOS pole extensions. The pole extensions perfectly adapt to the workpiece contour.

→ Workpiece has an underlay

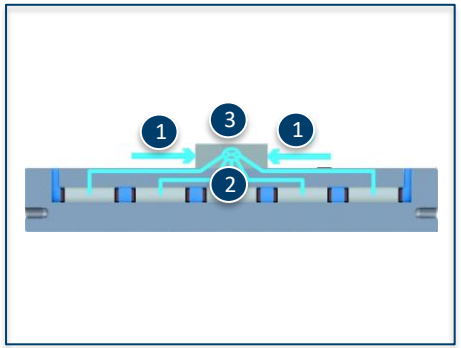
→ Stably positioned on the extensions



Covering poles

In the lateral direction, the multiple, maximum covering for north and south poles generates a strong holding force to prevent the workpiece from being pulled off.

→ A strong holding force in the cross direction



Force field line concentration

Due to the parallel pole technology, most force field lines of the magnetic field are passed through the workpiece to the other pole.

1. Resulting in a high lateral holding force
2. Magnetic field lines
3. Magnetic flow direction

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