

Technical data for magnets (pot magnets)

Structure:

Pot magnets are magnets that, due to their structure have only one attracting surface. No other surface is magnetic. This construction makes it possible to limit the three-dimensional effect of the magnetic field so that no unintentional magnetization of the entire workpiece in contact with the pot magnet, or of the machine elements surrounding the magnet, occurs.

Designs:

The deep pot magnets series:

09060, 09061 and 09063

have a core made of the permanent magnetic material AlNiCo, which is inserted for magnetic shielding into a soft iron pot with an intervening sleeve made of a non-magnetizable material.

The shallow pot magnet series:

09064 and 09065

have a core made of the permanent magnetic ceramic material SrFe (hard ferrite). This is also inserted into a soft iron pot to create the desired magnetic shielding.

The pot magnet series

09066 and 09067

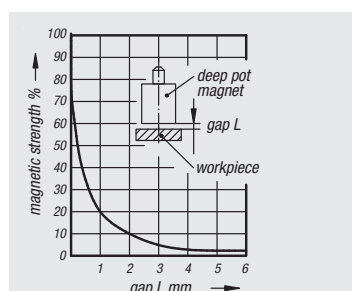
have a SmCo core, an alloy of rare metallic elements with cobalt. SmCo increases the magnetic force by three to five times that of AlNiCo or hard ferrite magnets by the same magnet size.

Magnetic strengths:

The values indicated in the table are minimum values that are achieved for a vertical pull-down with full-surface contact of the pot magnets on soft iron or low-carbon steel workpieces of sufficient thickness. By unclean pole faces or uneven workpieces, air gaps are formed, which sharply decrease the attractive force. It is therefore advisable to always ensure a clean pole face and to clean it from time to time if necessary.

Diagram:

Reduction of the magnetic strength of a deep pot magnet with increasing air gap (non-magnet intermediate have the same effect as air gaps).



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SmCo pot magnets (deep or shallow) must not be mounted directly in iron, but must be screwed, glued, pressed or cast into a sleeve of non-magnetic material (see illustration below).

Magnet series shielded system

- workpiece to be held
- iron
- permanent magnet
- non-magnetic sleeve
- Fe jacket
- Non-magnetic material such as MS, Al, Cu or plastic

Installation or fastening possibilities of gripper magnets

Order No.	Description	System	Temperature* max. °C	Fastening possibility
from 09060-01 to 09060-10	deep pot	shielded	450	Press in/shrink-fit/ glue in
from 09061-01 to 09061-09	deep pot	shielded	450	Solder in (soft solder)/ glue in
from 09063-01 to 09063-10	deep pot	shielded	450	Rivet pin/ screw in
from 09064-01 to 09064-10	shallow pot	shielded	100	Press in/glue in
from 09065-01 to 09065-26	shallow pot	shielded	100	Screw in
from 09066-01 to 09066-18	shallow pot	shielded	200	Press in/glue in
from 09067-01 to 09067-15	deep pot	shielded	200	Press in/glue in screw in

* Long-term heating or alternating thermal stresses may result in mechanical changes in the magnet system. In many cases they have no influence on the function. The same applies for chemical stresses (chemical baths, aggressive gases, etc.).

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