

Datasheet

Alnico
Deep Pots



ECLIPSE
MAGNETICS

The world renowned
HERITAGE
range

At A Glance

- ✓ Threaded hole connection
- ✓ Up to 14.75kg (32.4lb) pull force
- ✓ 220°C (428°F) temperature rating
- ✓ Eclipse Red coated Mild Steel Body
- ✓ Supplied with protective Keeper Plate

The Alnico Deep Pots are higher temperature pot magnets capable of being used at temperatures up to 220 degrees C. They all have a threaded hole at the back to allow connection to another item. Finished with our world renowned Eclipse Red coating.

The Alnico Deep Pots have a protective Eclipse Red coated mild steel outer. The magnet is held in place with aid of an aluminium spacer ring. These pot magnets are supplied with keeper plates.

The Alnico Deep Pots use an Eclipse Red powder coated mild steel body to form a 'cup' that contains and protects the alnico disc magnet within the pot magnet. An aluminium ring is used as the spacer to aid holding the alnico disc magnet in place within the pot magnet assembly. At the back of the Alnico Deep Pot magnet the mild steel has a threaded hole. The thread varies from M3 up to M6 (depending on the size of the pot magnet). You can then attach parts to the pot e.g. bolts, eyelets, etc to make magnetically clamping assemblies. Although alnico magnet material is, on its own, capable of operating at up to 525°C, due to the way the pot magnet is constructed the pot magnet is limited to operating at up to 220°C (428°F) because of factors such as thermal expansion coefficients, adhesives, etc.

The alnico disc magnet is axially magnetised. When assembled within the Alnico Deep Pots, the visible magnet face is the surface that does all the clamping. As such, the pot magnet is best for direct contact clamping onto thick mild steel surfaces. Thinner steels, air gaps or materials with reduced magnetic permeability will all reduce the magnetic performance of the Pot Magnet. The pull force varies from up to 1.0kg (2.2lb) for the 9.5mm diameter version up to 14.75kg (32.4lb) for the 35mm diameter version. The pot magnet is supplied with a plated mild steel Keeper Plate for storage - you need to slide away this Keeper Plate (to remove it) to unleash the magnetic performance (if you cannot see the magnet within the pot then the Keeper Plate is still present - the pot magnet will appear very weak until you remove the Keeper Plate).

Benefits

- Maximum Recommended Operating Temperature 220°C (428°F)
- Threaded Hole fixing
- Magnet protected by the Eclipse Red powder coated Mild Steel Body ('cup')
- Great for gripping, lifting, positioning, fixturing, general securing, etc
- Up to 14.75kg (32.4lb) holding force

Performance

Magnetic Performance	Up to 14.75kg (32.4lb) pull force - see next page
Magnet Type	Alnico Pot Magnet Assembly
Temperature Range	Up to 220°C (428°F) - Max. Recommended

Suitability

Suitable Products	Mild Steel plates, Ferrous Surfaces, etc
Suitable Location	Example - Fixturing, Positioning Jigs, Multiple Assemblies, Lighting, Home, Workshop, etc

Materials

Magnetic Material	Alnico (AlNiCo)
Other Parts	Mild Steel (Zinc Plated), Aluminium, Adhesive

Maintenance

- There is no specific requirement to regularly inspect this item
- 220°C (428°F) - Maximum Recommended Operating Temperature
- Put Keeper Plate back onto Pot Magnet for safe storage and during transit
- Easy cleaning of surfaces can be achieved using a cloth

Alternatives

- Alnico Buttons
- Alnico Deep Pots
- Holdfasts
- Alnico Powers
- Alnico Shallow Pots
- Samarium Cobalt Deep/Shallow Pots



Alnico Range

Eclipse Magnetics Work Smart with Magnets

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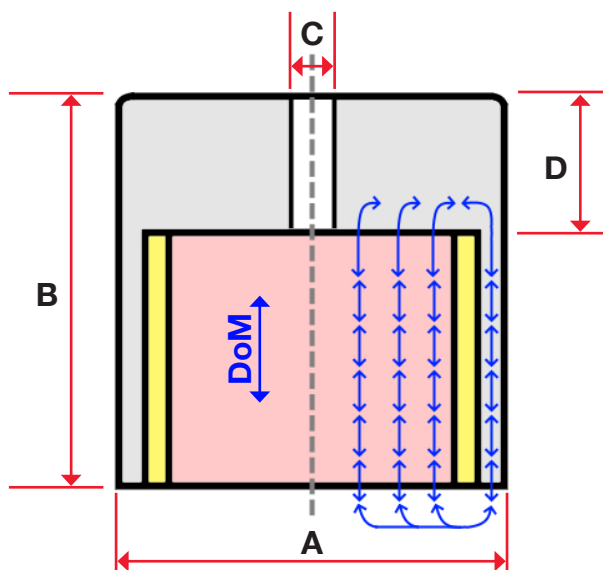
A Generic Example cross-section is shown for guidance

For simplicity, the cross-section shown does not show part-specific details such as glue lines/filler, etc.

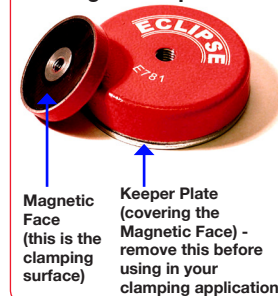
The example shown is not to scale.

DoM = Direction of Magnetisation (inside the Permanent Magnet)

The blue arrows give a guidance to the magnetic pathways (shown on one half only) after the Keeper Plate has been removed. Where the magnetic pathways are out into the air gap - this is where you can place a ferrous part for the Pot Magnet to clamp against it.



Pot Magnet Keeper Plate:-



Magnetic Face (this is the clamping surface)

Keeper Plate (covering the Magnetic Face) - remove this before using in your clamping application

Product Number	Dimensions (mm)				Magnetisation	Maximum Recommended Operating Temperature	Weight (g)	Pull Force* (kg)	Units per Pack
	Diameter A	Height B	Diameter C	Hole Depth** D					
829	9.5	15	M3	~2	Through Height	220°C/ 428°F	5	1.00	10
830	12.7	15.9	M4	~3.6	Through Height	220°C/ 428°F	15	2.00	10
831	17.5	16	M6	~2.7	Through Height	220°C/ 428°F	23	2.65	10
832	20.5	19	M6	~5	Through Height	220°C/ 428°F	40	4.00	5
833	27	25	M6	~5	Through Height	220°C/ 428°F	85	6.10	5
834	35	30	M6	~8.8	Through Height	220°C/ 428°F	184	14.75	2

* The Pull Force is a Maximum Possible Pull Force Rating based on direct contact pull against a very thick and smooth finish high magnetic permeability mild steel plate. The actual performance is application specific - thinner material, less magnetic material, air gaps, and elevated temperatures, etc can all reduce the magnetic performance.

** The depth of hole is approximate and may not be tapped with the thread type to all the way to the bottom of the hole (due to how the product is produced and tolerance variations).

For further assistance, please contact sales@eclipsemagnetics.com

Although we have made every attempt to provide accurate information, we do reserve the right to change any of the information in this document without notice.

We cannot accept any responsibility or liability for any errors or problems caused by using any of the information provided.

Conversions Guide:-

1kg ≈ 2.204lb ≈ 9.806N

1lb ≈ 0.453kg ≈ 4.448N

1N ≈ 0.101kg ≈ 0.224lb

10mm ≈ 0.393in (≈ 25/64in)

1in ≈ 25.4mm

(the above conversion values are rounded down)



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