

# Optimag E

Electronically switched permanent magnet

Datasheet no. 305



Magnetic gripper supplied as a modular system in 4 standard sizes. Circular pole configuration ensures maximum clamping power is applied when the workface is covered by a component of the minimum thickness material.

Used for clamping or lifting of materials with a flat smooth surface and a minimum thickness of 10mm. For maximum performance, full magnetic saturation of the material should be realised, which means using the correct size of Optimag for the material. Please contact us for sizing information.

Optimag E provides a greater clamping force on thicker materials than the Optimag P (pneumatically switched) (see datasheet 306).

## Fail Safe

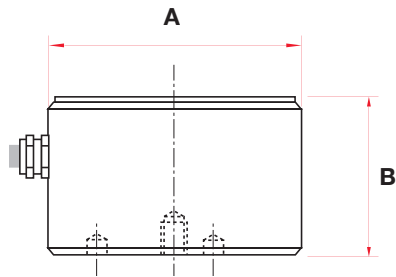
Power is only required to switch the unit on and off. The Optimag E houses high performance neodymium magnets that remain magnetised in the same direction at all times and alnico magnets that can have their magnetic polarity reversed by an electrical charge. When both magnets are of the same polarity, magnetism flows through the working face and clamps the component. Reversing the polarity of the alnico magnets means the magnetism is diverted internally and the component is released. The state and performance of the magnet remains fixed indefinitely until the controller is connected to the magnet and operated. If the electricity fails while a load is being held, it will not be dropped.

## Typical Uses

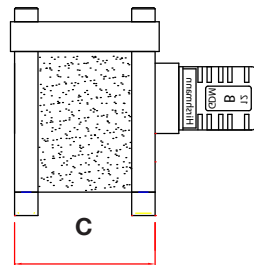
- Robotics
- Pick and place
- Transfer machinery
- End of arm grippers for manipulators
- Jigs and fixtures
- General lifting
- Turnover applications

## Benefits

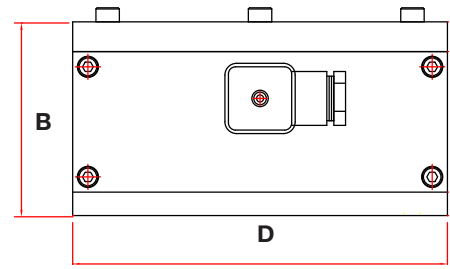
- Fail-safe operation
- Power only required for on/off switching operation
- On/off switching takes less than 0.2 seconds
- Can be controlled by push button, signal from a PLC or a robot/computer interface
- No moving parts
- Low maintenance
- Pole extensions can be profiled to the shape of the component to be clamped



Circular Optimag E



Rectangular Optimag E



## Product Information

Product	Lifting mm	SWL kg	Dimensions mm				Unit Weight kg
			A	B	C	D	
<b>Circular</b>							
Optimag 80E	Flat	85	80	55	N/A	N/A	1.8
Optimag 100E	Flat	150	105	62	N/A	N/A	3
Optimag 125E	Flat	250	130	80	N/A	N/A	6
Optimag 150E	Flat	400	155	80	N/A	N/A	8.8
<b>Rectangular</b>							
Optimag E164RF	Flat	42	N/A	83	40	160	2.8
Optimag E166RF	Flat	84	N/A	83	60	160	3.8
Optimag E177RF	Flat	234	N/A	130	74	170	10.4
Optimag E164RR	Round	37	N/A	83	40	160	2.9
Optimag E166RR	Round	75	N/A	83	60	160	4
Optimag E177RR	Round	234	N/A	135	74	170	10.6

Controllers	Operating Voltage v	Rating	Dimensions mm		
			Width	Height	Depth
Optimag EC1	240	50	300	300	155
Optimag EC2	240	100	300	300	155
Optimag EC3	240	180	400	300	155
Optimag EC1/2 Handset	N/A	N/A	112	65	55
Optimag EC3 Handset	N/A	N/A	112	65	55

For lifting applications a SWL of 3:1 is recommended

## Controller

<b>Enclosure</b>	Lockable, steel enclosure powder painted
<b>Size</b>	300mm x 300mm x 165mm supplied to IP65
<b>Operation</b>	Illuminated push buttons that indicate the state of the magnet
<b>Safety interlock</b>	Current sensing circuits sense and measure the input voltage to the magnets
<b>Voltage</b>	240v/50hz standard, 110v/50hz available as an option
<b>Current draw</b>	maximum 40a per channel. Maximum of 2 channels

## Specification

<b>Temperature</b>	Maximum + 80°C (176°F)
<b>Cable connection</b>	Gland to IP65
<b>Cable type</b>	0.75Mm2 three core double insulated pvc
<b>Cable length</b>	5 metres

## Materials

<b>Outer shell</b>	Steel
<b>Finish</b>	Epoxy powder painted – red
<b>Magnetic material</b>	Rare earth neodymium iron boron & alnico

If you have any more questions, require technical assistance and would like a quotation, simply contact us.

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While every effort has been made to ensure the accuracy of the information in this publication please note that specifications may change without notice.



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