



Magnetic Products, Inc.
Highland, Michigan | mpimagnet.com

The Proper Ways to Use a Lift Magnet

Common Lift Magnet Performance Loss and Failure Factors

- Blunt force impacts, such as dropping, or banging on the magnet can cause fractures in the magnet
- High heat: If the magnet is exposed to temperatures above its' capabilities, it will lose magnetism
- Exposure to electrical fields, like generators or welding ground circuits, will result in loss of magnetism
- External factors that influence a lift magnet's performance are nicks, scratches, gouges, rust, etc. to the contact surface of the lifter
- Breakaway testing will prove the magnet is performing at the intended Working Load Limit (WLL)



HEAT



IMPACT



WELDING

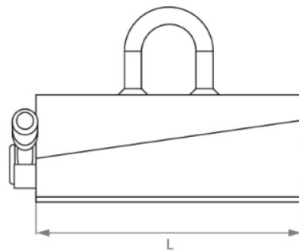
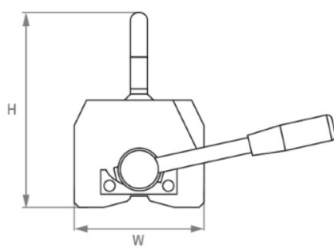


LIQUID INGRESS

Important Do's and Don'ts

Always

- Instruct new operators to read the relevant manual before use
- Use the entire work surface of the lifter
- Fully engage the lifter in the ON position before lifting the load
- Wear suitable protective gear when using the equipment
- Maintain the lifter work surface in good condition
- Check the suitability of equipment used in conjunction with the lifter
- Adhere to the safe working load information specified



Why Should I Use a Lift Magnet Testing and Certification Service?

Lift Magnets cannot be visually inspected alone. Lift Magnet Failure is often the result of internal damage to the magnetic material and is not evident by simple visual inspections that can be performed on other lifting devices. Our Lift Magnet Testing and Certification Service performs both a thorough visual inspection and functional testing of your magnetic lifting products using testing techniques and equipment that meet or exceed the ASME B30.20 Standards for Below-the-Hook Magnetic Lifting Devices. These performance tests are often referred to as Breakaway tests.

Proper breakaway testing of a lift magnet will determine the maximum lift capacity of that magnet under ideal conditions. The outcome of the test allows the operator/owner of the lift to determine if the magnet meets the rated Working Load Limit (WLL) or lift capacity as designed by the manufacturer. After testing, MPI provides documentation of the testing and a certificate of conformance if the magnet meets the manufacturer's labeled rating.

Never

- Lift or transport people
- Lift loads while people are in the maneuvering space
- Allow untrained personnel to operate the lifter
- Leave a load unattended
- Attempt to switch the lifter before setting the load down
- Position yourself beneath the lifted load
- Bring the load to a sharp stop
- Lift a load outside of the specified safe workload of the lifter
- Lift a load with dimensions outside those specified for the lifter
- Lift an unbalanced load
- Operate the lifter in temperatures higher than 80°C (176°F) or lower than -10°C (14°F)
- Operate the lifter in humidity higher than 80%
- Operate the lifter in explosive (EX) or static sensitive environments
- Submerge the lifter in water



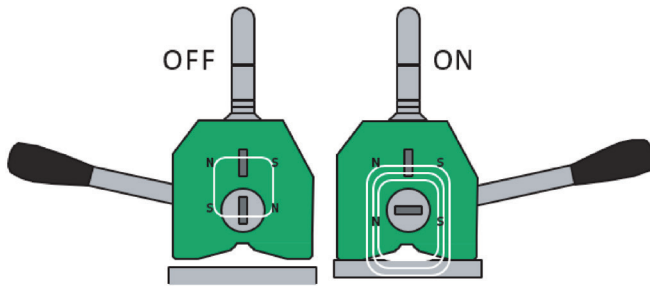
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How Does A Lift Magnet Work?

Elements of a Lifting Magnet

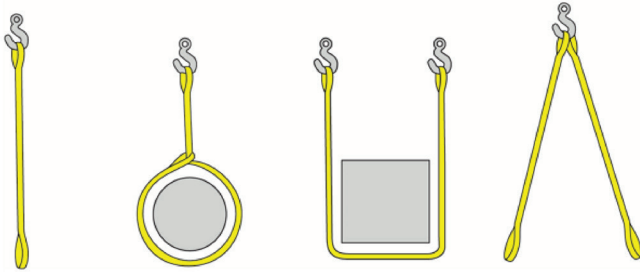
Lifting magnets make manipulation more effective without damaging or deforming the load mechanically. Magnetic lifters consist of stator and rotor. The stator has two steel poles divided by non-magnetic material. Between the two poles lays a line of strong neodymium magnets. Another line of magnets is in the rotor.

In the OFF position, the magnetic flux is closed in an "inner" circuit within the stator. By turning the rotor into the ON position, the flux closes the "outer" circuit (through the workload) made of magnetic material.



Advantages Against Textile Lashing

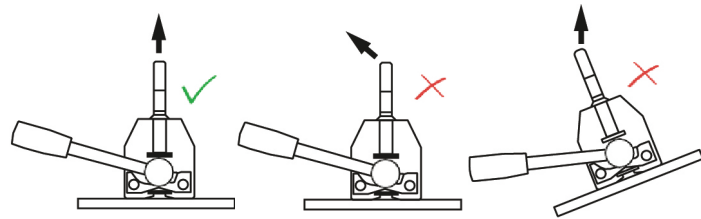
Slings need to be put under the load, magnets don't
Lifting with slings is time consuming, magnets are faster



Lifting Magnet Safety Tips

Lifting magnets are powerful tools used to manipulate a load. Ensure the lifting magnet is working properly to prevent injury and damage to the load. Always read the instruction manual and ask for assistance if you are having difficulty.

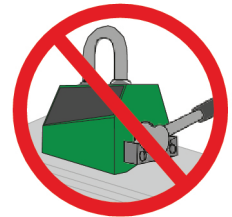
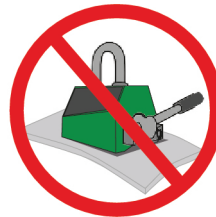
- Minimize the Air Gap, space between the magnet and the load, by keeping the workpiece and pole faces clean.
- Cover pole faces completely, always cover them proportionally
- Keep the load horizontal
- Place magnet in or near center of gravity



- Beware of thin loads
- Capacity is reduced considerably
- More than one piece is likely to be lifted



- Beware of long, flexible loads
- Place pole faces across the length
- Use more magnets if necessary



- Beware of alloys - they can reduce capacity considerably
- Always stay clear of the load
- Guide the load by its corners
- Never get under the load
- Never lift loads bigger than indicated