On/Off Magnetic Welding Square

OPERATION MANUAL

MWS0150, MWS0450 and MWS1000

Read and understand all information and instructions prior to use. Failure to follow all instructions listed below may result in an unsafe or dangerous condition.

Magnetic Welding Squares are designed to hold steel plate, pipe, bar and rod stock, flat stock or angle iron. They have strong holding power and a great amount of sheer-force holding strength to prevent sideways movement.

GENERAL INFORMATION

- All magnets need to be kept at a safe distance from all magnetic storage devices, electronics and credit cards etc.
- Store in the "OFF" position when not in contact with ferrous metals. The Magnetic Welding Square can be left "ON" or "OFF" indefinitely with out harm. When "ON" and near ferrous metals there will be a sudden and powerful attraction.
- Never use a Magnetic Welding Square to lift any materials
- DO NOT attempt to disassemble or alter; there are no user serviceable parts inside the device.
- On/Off magnets are designed for normal conditions, do not use underwater or in a hazardous environment.
- DO NOT use if damaged or not working properly. Severe injury can occur if this device is not used properly and safely.
- DO NOT expose the Magnetic Welding Square to temperatures above 176 degrees Fahrenheit (80 Celsius). High temperatures will permanently degrade its effectiveness and may result in an unsafe condition.
- Never use for OVERHEAD LIFTING or to transport any materials.
- Not recommended for painted or finish coated surfaces as these will reduce the magnetic bond and the finish may be damaged.
- Always keep the bottom of the magnet clean and free of debris and rust. If needed, wipe with WD40 or light oil.

Tips for Use

- Always test the connection before use to ensure that it is capable of holding the material securely.
- Numerous factors can negatively affect the strength of the magnetic bond. Ensure that the connection point is clean and free of dirt, debris, oils, grease, and painted surfaces.
- Thicker metals will be held more strongly than thinner metals.
- Avoid sudden bumping or shock force as this will cause the Magnetic Welding Square to lose its hold.
- Threaded holes are to mount accessories to it or to mount the square into a fixture. For best results do not attach ferrous metals to the Magnetic Welding Square, unless using spacers as described below. This will maintain the strongest magnetic attraction.
- Stainless steel screws are recommended to be used to attach non-ferrous metal materials to the sides. Wood, plastics and aluminum are all non-ferrous metal materials that make excellent attachments. Alternatively, non-ferrous metal spacers can be placed between the Magnetic Welding Square and a jig/fixture.
- Magnetic Welding Squares are not designed to be used as a welding ground clamp or as part of an electrical circuit.
- For safe operation, the bottom surface of the magnet must always be flat and smooth. If necessary, sand the magnet face smooth using 400 grit sandpaper and a flat surface. Always file any burrs that would interfere with full contact.
- Damage can occur from dropping, bumping and impact. Periodic inspection by the user is recommended to ensure that the 90 degree angles are still accurate.

Applications

Ideal for holding material in place when used on any cast iron or steel surface including;

- Table Saw
- Drill Presses
- Angle Iron
- Planer
- Steel Fit-Up Table
- Structural Steel
- Jointer
- Welding Table
- Vehicle Frame/Chassis
- Shaper
- Steel Pipe
- Shop Machinery
- Steel Router Table top
- Flat Stock
- Band Saws
- Bar Stock

Magnetic Welding Squares are precision machined to hold ferrous metal material at 90° angles. They are perfectly suited to work-holding applications when you are holding any ferrous metal such as steel plate, angle iron, pipe, and rod and bar stock. While the greatest holding power is straight at the base, the two sides of the Magnetic Welding Square that have the "v" groove have very powerful magnetic attraction forces as well. This allows for multi-plane work holding for fit-up at precise 90 degree angles. Ferrous metals will be lightly held on the two non-"v" groove sides as well.

When used for material holding for metals that are to be welded, be careful not to overheat the magnets. Temperatures above 176 degrees internal will permanently degrade the magnetic power and holding strength. Tack welds only are recommended to keep the heat transfer to a minimum. To help reduce heat buildup, keep the Magnetic Welding Square at least 3 inches from the welding point and remove after the tack weld. Attaching ferrous metals to the sides of the Magnetic Welding Square will reduce the magnetic hold of the bottom as this force is now shared among more than one direction.

Operation

- Never exceed the rated capacity of the magnet:
  MWS0150 - 150 lbs. (68 kg.) pull.
  MWS0450 - 450 lbs. (204 kg.) pull.
  MWS1000 - 1,000 lbs. (454 kg.) pull
- **Turn On** - The handle on this Magnetic Welding Square must be pushed down and turned clockwise 180 degrees until it stops. It is not possible to hold the magnet in place unless the "ON" position is fully engaged.
- DO NOT turn "ON" unless in contact with ferrous metal
- **Turn Off** - To release the Magnetic Welding Square push the handle down and turn the handle in the counter clockwise direction until it stops. The Magnetic Welding Square will turn "OFF" and release immediately upon turning the handle. Use caution to ensure that it is safe to release the Magnetic Welding Square and that nothing will fall or become dangerous.
- Always turn off power tools before turning the Magnetic Welding Square "ON" or "OFF" to avoid injury.

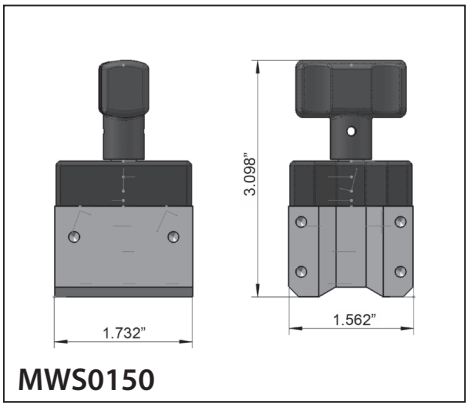
DRAWINGS

Mounting Holes:

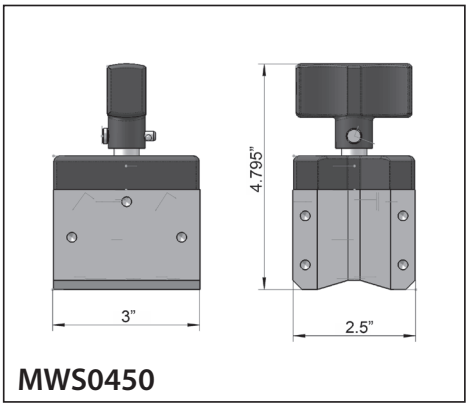
MWS0150 - #8-32 - approx. 0.33" deep
MWS0450 - 1/4-20 - approx. 0.5" deep
MWS1000 - 3/8-16 - approx. 0.5" deep

Minimum Outer Diameter of Steel Tube:

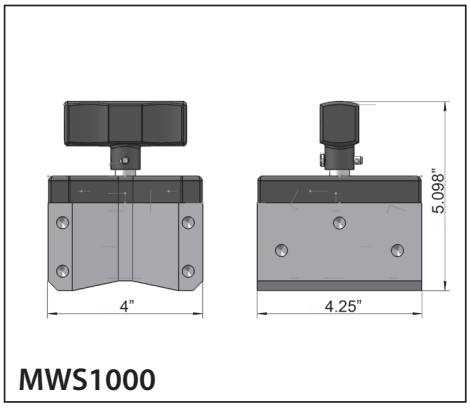
MWS0150 - 1.5"
MWS0450 - 2"
MWS1000 - 4"



MWS0150



MWS0450



MWS1000