



# MagSquare

MagSquare 150, 400, 600, and 1000

## Operation and Instruction Manual

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This Magswitch MagSquare Is Designed To Hold Steel Plate, Pipe, Bar And Rod Stock, Flat Stock Or Angle Iron. Using Patented Technology, This Device Has Tremendous Holding Power As Well As A Great Amount Of Shear Force Holding Strength To Prevent Sideways Movement. MagSquare 150, MagSquare 400, MagSquare 600, MagSquare 1000 Models.

**Read All Instructions! Failure To Follow All Instructions Listed Below May Result In An Unsafe Or Dangerous Condition.**

### General Information

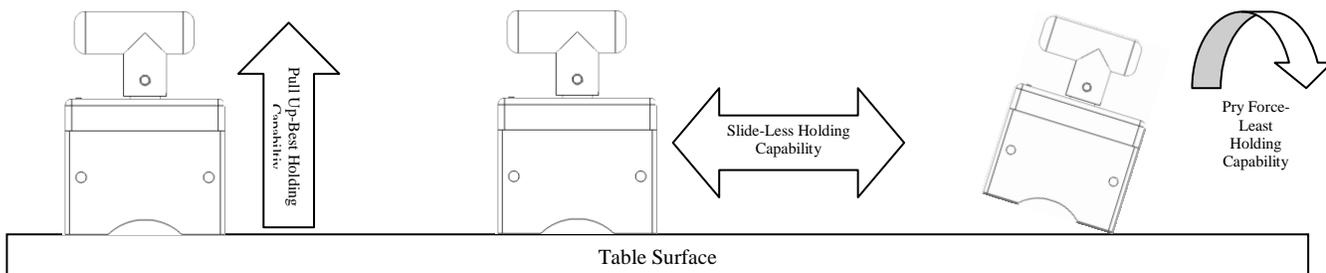
- All Magnets need to be *kept at a safe distance* from all Magnetic storage devices, electronics and credit cards etc...
- Ensure that the MagSquare is *stored in the "OFF" position* when not in contact with Ferromagnetic metals. The MagSquare can be left ON or OFF indefinitely without harm. When ON and near Ferromagnetic metals there will be a sudden and powerful attraction.
- *Never use a MagSquare to lift any materials*, although it is ideal for debris cleanup, nuts and bolts, metal shavings, etc...
- **DO NOT attempt to disassemble or alter** the Magswitch MagSquare; there are no user serviceable parts inside the device.
- All Magswitch products are *designed for normal work/jobsite conditions*, do not use underwater or in a hazardous environment unless specifically designed for that purpose.
- **DO NOT use the MagSquare if it is damaged or is not working properly.** Severe injury can occur if this device is not used properly and safely.
- **DO NOT expose the Magswitch Magnets to temperatures above 180deg Fahrenheit (80 Celsius).** High temperatures will permanently degrade the Magnet's effectiveness and may result in an unsafe condition.
- *Never use a MagSquare 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.
- **This product contains PTFE lubricant.** For MSDS information contact Magswitch.
- **Always keep the bottom of the magnet clean and free of debris and rust.** If needed wipe with WD40 or light oil

### To Use the MagSquare

- Always *test the connection* before attempting to use the MagSquare to ensure that it is capable of holding the material securely.
- *Numerous factors can negatively affect the strength* of the Magnetic bond, dirt, debris, oils and grease, painted surfaces and any gap between the Magnet and the metal surface will decrease the bond. *Ensure that the connection point is clean* and free of these factors.
- **Thicker metals will be held more strongly than thinner metals.** E.g.: 1/4" (6mm) steel will be held more strongly than thin gauge metals.
- **Never exceed the rated capacity** of the MagSquare. MagSquare 150's have up to 150 lbs (68kg) of Break-Away Force. MagSquare 400's have up to 400 lbs (181 kg) of Break-Away Force. MagSquare 600's have up to 600 lbs (272 kg) of Break-Away Force and MagSquare 1000's have up to 1000 lbs (454 kg) of Break-Away force under ideal conditions. Tested in accordance with Magnet Distributors and Fabricators Association testing methods and represents a straight Break-Away pull. Actual in-use results will vary greatly and *user must test every bond to determine the suitability of the magnet* to hold the material.
- **Avoid sudden jerking or Shock force** as this will cause the MagSquare to lose its hold.
- Threaded Holes are provided in this MagSquare to mount accessories to it or to mount the square into a fixture. For best results **do not attach Ferromagnetic Metals** to the MagSquare, unless using spacers as described below. This will keep the magnetic grip at its most powerful.
- **Magswitch recommends that Stainless Steel screws be used to attach non-Ferromagnetic materials** to the sides when used as a holder for your Jig or Fixture. **Wood, Plastics and Aluminum** are all non-Ferromagnetic materials that make for excellent attachments. Alternatively non-Ferromagnetic spacers can be placed between the MagSquare and the jig/fixture
- **This MagSquare is 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, it is possible to sand the Magnet face smooth using 400 grit sandpaper and a flat surface. **Always file any burrs** that would interfere with full contact.
- As with all precision devices, damage can occur from dropping, bumping and impact. **Magswitch recommends periodic inspection** by the user to ensure that the 90 degree angles are still accurate and the MagSquare still fits their needs.

### MagSquare Operation

- **The handle on this MagSquare must be turned clockwise 180 degrees until it stops** in order to be turned "ON". It is not possible to hold the Magnet in place unless fully turned "ON".
- **DO NOT turn ON unless in contact with Ferromagnetic Metal**
- **To release the MagSquare push the handle down and turn the handle in the counter clockwise direction until it stops.** The MagSquare will **turn off and release immediately** upon turning the handle. Use Caution to ensure that it is safe to release the MagSquare and that nothing will fall or become dangerous.
- **Always turn off power tools before turning the MagSquare ON or OFF to avoid injury.**
- This MagSquare is capable of **exceptional Break-Away force** holding power; MagSquares are exceptionally strong in **Shear Force** as well. **Prying force is the least powerful** of the holding capabilities and great care must be used when attempting to use this device with Pry force. **See illustrations below.**



# MagSquare Usage Manual

**Never before have such versatile and powerful magnets had ON/OFF control with such ease. MagSquare is a multi-purpose Workholding/Clamping tool with uses limited only by your imagination. Whether using it as a positioning aide, mounting tools to the magnet, or installing the magnet into a fixture, you now have a versatile Workholding tool that will last for many years.**

## **Ideal for holding material in place when 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         | ✓ And more!             |
| ✓ Band Saws              | ✓ Bar Stock          |                         |

- MagSquares are precision machined to hold Ferromagnetic material at 90 angles. They are perfectly suited to work-holding applications when you are holding any Ferro-Magnetic substance 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 MagSquare that have arches in the bottom have very powerful magnetic attraction forces as well. This allows for Multi-Plane work holding for fit-up at precise 90 degree angles.
- Ferromagnetic Metals will be lightly held on the two non-arched sides as well.
- When used for material holding for metals that are to be welded, be careful not to overheat the magnets. Temperatures above 180 degrees internal will permanently degrade the magnetic power and holding strength. Magswitch recommends a tack weld only to keep the heat transfer to a minimum. To help reduce heat buildup, **keep the MagSquare at least 3 inches from the welding point and remove after the tack weld.**
- Attaching Ferromagnetic metals to the sides of the MagSquare will reduce the magnetic hold of the bottom as this force is now shared among more than one direction.

## **Industrial/Fabrication Applications:**

MagSquares are ideal for replacing many types of clamps in a repetitive assembly or fabrication shop application.

- ✓ **Cost Savings. Green.** Requiring no electricity to turn on and OFF, they save money and are not affected by power loss.
- ✓ **Enduring.** MagSquares can be left on indefinitely for long working times.
- ✓ **Ergonomics and Safety.** Unlike standard hand clamps, MagSquares are easily positioned precisely as needed, and require little effort to turn on/OFF. Reduce chances of repetitive stress and hand injuries from clamping.
- ✓ **Precise Positioning.** Varying hold force throughout the actuation cycle from OFF to ON, Precise positioning is achieved through adjusting the hold force while moving your material.
- ✓ **Non Marring** Unlike traditional clamps, MagSquares will hold materials at any angle without damaging or marring the surfaces.
- ✓ When attached to a Ferromagnetic repetitive assembly fixture for permanent or semi-permanent mounting, insert a non-Ferromagnetic spacer between the MagSquare and the Ferromagnetic metal frame. This will ensure that maximum magnetic energy is directed into the bottom of the housing.
- ✓ MagSquares are ideal for clean up after work. Picks up nuts, bolts, screws, scrap metal and shavings. Turn the MagSquare OFF to instantly release the material, wipe off any remaining shavings and it is ready for use again.
- ✓ Makes a perfect repetitive work stop when attached to any Ferromagnetic table top or vise.

## **Automotive and Body Shop Applications:**

- ✓ **Quick, Strong Workholding.** Ideal for holding and aligning parts when assembling a frame or chassis. Anytime a quick weld or precise assembly is required- MagSquare is the answer!
- ✓ **Support Large Awkward Parts.** Use one or more MagSquares to create a powerful support hold when working underneath a vehicle. Perfect for Mufflers, CV Axles, calipers and more. Always attach to clean metal and test to ensure holding strength.
- ✓ **Perfect as a third hand** when installing lines, exhaust pipes, mufflers, axles etc... Attach a chain or hook to the sides for added support opportunities.
- ✓ Attach a hook or chain material to the sides to hang parts or larger items during install and repair.
- ✓ **Precision.** Precisely positioned on metal surfaces, perfect for use to align and weld on parts. With multi-plane work holding capability, the MagSquare will hold most weld on parts securely to the side, while remaining positioned on the frame. Magswitch recommends that a tack weld be used to avoid overheating the MagSquare.
- ✓ Ideal for holding small tools, fasteners and Ferromagnetic parts when working under a hood or vehicle. The two arched sides are magnetic!
- ✓ Perfect for clean up after the job is done. Turn the MagSquare OFF to release all of the scrap, parts and shavings, wipe clean and it is ready for use.

### **Magswitch Limited Warranty**

Magswitch products are covered by a One Year Limited Warranty on Material and Workmanship. Warranty is Non-Transferable.

Magswitch reserves the right to inspect all product claims under warranty. Any alteration of the device voids this warranty.

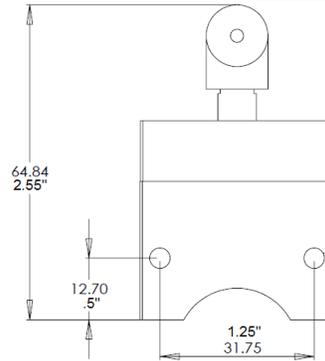
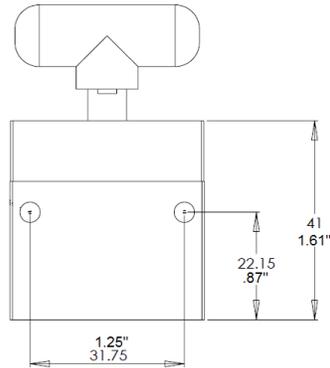
User assumes all risk for the proper use of this device and for ensuring product suitability for intended application.

This warranty shall not cover any incidental or consequential damages due to the improper use or failure of this device.

All Magswitch products are intended for the use identified on the package - not intended for resale or integration into products for resale. Contact Magswitch for inquires on integration of technology. Australian Patent: 753496, Chinese Patent: 254155, New Zealand Patent: 518865, Singapore Patents: 88931; 103413, South Africa Patents: 2002/3752; 2004/1785, US Patents: 6,707,360; 7,012,495. Additional Patents and Patent Applications Pending.

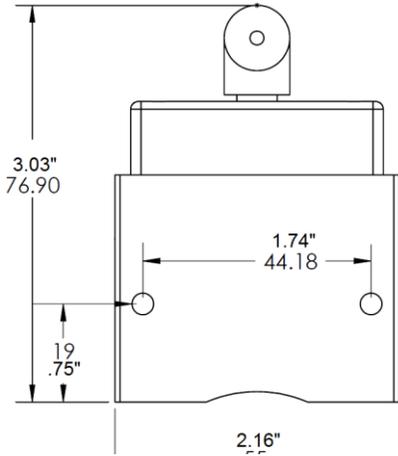
# MagSquare Dimensions

## MagSquare 150

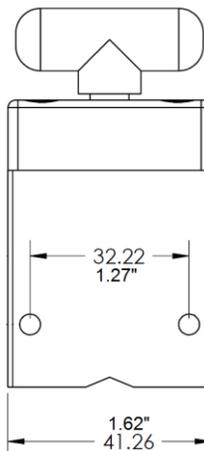


Threaded Holes are M5x .8 approx 10mm deep

## MagSquare 400



Strong Holding power on "Arched Side"

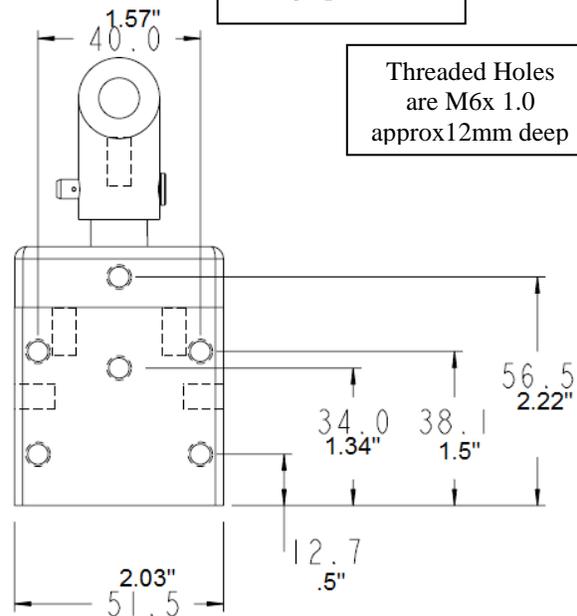
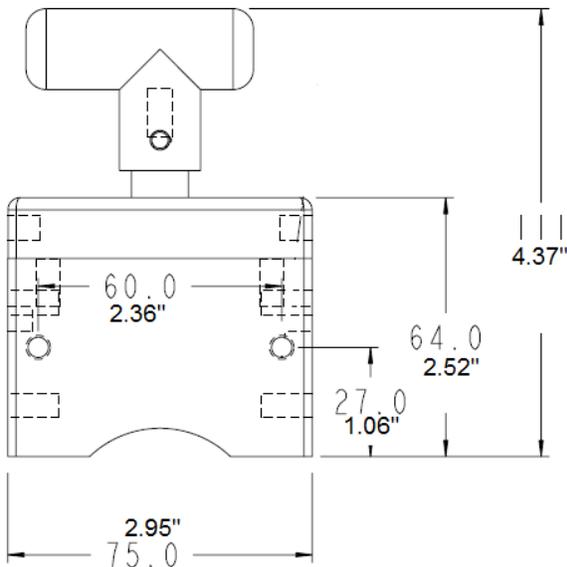


Little Holding power on "Non-Arched Side"



M5X .8 Mounting Holes Approx 3/8" (10mm) Deep

## MagSquare 600



Threaded Holes are M6x 1.0 approx 12mm deep

**MagSquare 1000**

Threaded Holes are  
M10x 1.5  
approx 12mm deep

