

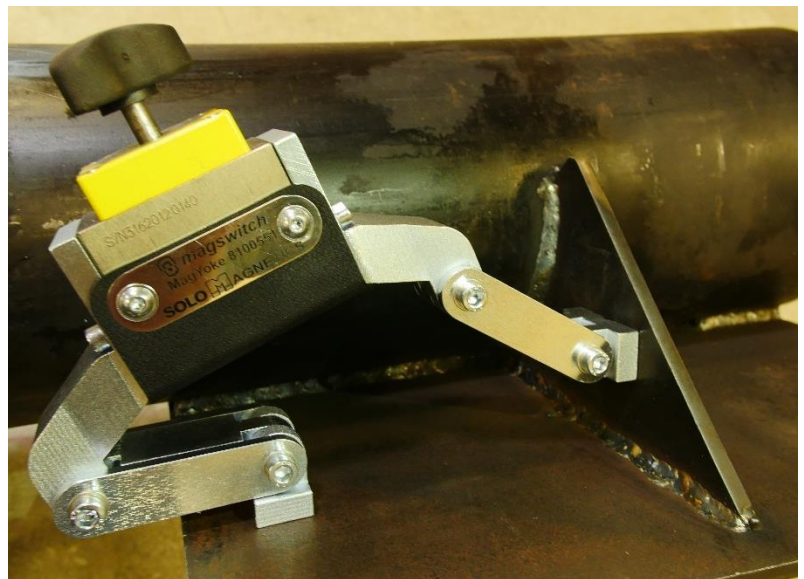
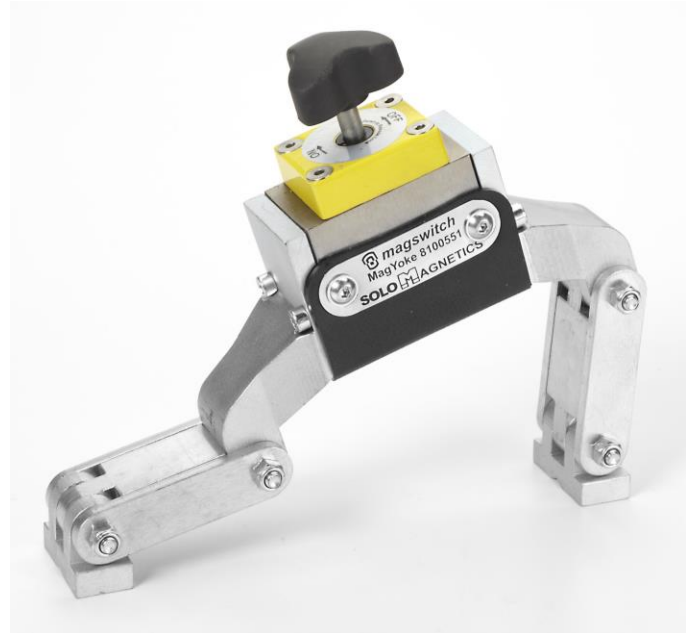
MagYoke | P/N: 8100551

Permanent magnet (DC) yoke used to generate static fields for magnetic particle inspections on ferromagnetic materials.

Summary

Span the MagYoke across suspect joints in ferromagnetic materials and rotate the knob clockwise to turn on a powerful DC magnetic circuit through the workpiece. A constant magnetic flux will flow from foot to foot, concentrating at flaws in materials or joints, resulting in stronger magnetic fields above incomplete joints, gaps or cracks in the material, and porous regions. Magnetic powders or fluids will accumulate around these defects due to the increased magnetic flux concentration and leakage. Note that surface magnetic field strength decreases on thicker materials, which makes detection more difficult unless more precise detection methods are used.

Although the MagYoke does feature strong breakaway forces on most material thicknesses, it should not hold work in place while welding. We recommend BoomerAngles, Magsquares, or similar tools for fixturing needs.



Specifications

Maximum Breakaway Force ^{1,2}	97 lb / 44 kg
Full Saturation Thickness	1.5 in / 38.1 mm
Net Weight	5.6 lb / 2.5 kg
Magnetic Pole Footprint	each foot 0.8in x 1.6in (20mm x 41mm)
Span between feet	0 to 9.6 in / 243 mm

Material Thickness - mm (in)	0.5 (0.020)	1 (0.039)	1.5 (0.059)	2 (0.079)	2.5 (0.098)	3 (0.118)	3.5 (0.138)	6 (0.236)	12 (0.472)	38.1 (1.500)
Maximum Force - kg (lbs)	4.5 (10)	10.9 (24)	18.1 (40)	24.5 (54)	31.8 (70)	39.5 (87)	40.8 (90)	43 (95)	43 (95)	44 (97)
Typical surface field strength ⁶ (Gauss)	750	980	1030	950	545	408	305	275	197	166

$$SWL \text{ (Safe Working Load)} = \frac{\text{Maximum Force}^5}{\text{Safety Factor} (\geq 5)}$$

¹ Determined in laboratory environment on 2" thick SAE1018 Steel with surface roughness 63 micro inches with optimized pole shoes. Many factors contribute to the actual breakaway force and safe working load in each application. Consult a Magswitch Applications Engineer and test the Magswitch in each application before deployment.

² All data applies to unit with flat pole shoes installed.

⁴ Values may vary by +/- 5%.

⁵ Maximum forces listed above are not safe lifting forces. Designer must take into account safety factor when specifying tool. Magswitch recommends SWL = 5:1 for most applications.

⁶ Typical surface field strengths are measured between and around feet of MagYoke when attracted to flat SAE1018 steel substrates in "standing" position shown on dimensional drawing on next page. Higher field strengths can be attained if the feet are moved closer together, used on a more magnetically permeable material, or if defects, gaps, porous regions, etc are present in the material resulting in concentration of magnetic flux.

