



Small Magnetic Floor Sweeper

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Summary

Small magnetic sweeper for cleaning up metal and grinding swarf from workshop floors

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Tags: [grinding](#) [lathe](#) [magnetic](#) [metal](#) [swarf](#) [sweeper](#)

Commercially available magnetic sweepers are usually 600mm / 2ft wide and too bulky for my small home workshop. My solution was to design a smaller version (which ended up being approx 235mm wide) that can get into smaller areas and be stored easier.

This sweeper was not initially designed for picking up large nails or thick pieces of metal and as such has a clearance of 4-5mm from the workshop floor when using the 30mm diameter wheels - for picking up grinding swarf and small brad nails however I have included some larger wheel sizes to increase the clearance up to ~25mm to be able to roll over eg lathe machining swarf and larger metal screws. There are also two bolt locations for the wheels to adjust the height, or you can even have a single centre wheels instead of pairs of wheels.

The handle bracket design is for a 25mm broom handle, however the model does contains some spacers as I am using a length of 16mm electrical conduit for the handle.

To completely cover the base will require 43 magnets (relatively cheap from eBay & other online stores) but you could get away with 18 magnets in 2 rows or a pattern of magnets as seen in some of the photos.

I recommend using some threadlocker on the bolts that hold wheels on to prevent them from loosening prematurely.

Additional parts required after printing (no supports required for any parts) :

(up to) 43x 20x10mm rare earth magnets with 4mm hole

(up to) 43x 4Gx12mm screws (for magnets)

20x 4Gx12mm screws (for lid & pole/handle bracket)

2x 4Gx20mm screws (for attaching lift handle to insert piece)

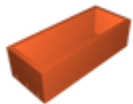
4x M4x16 bolts/nuts (for wheels)

1x M5x35 bolt/nut for handle/pole

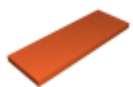
16mm conduit or 25mm broom handle

After sweeping back/forth over the floor, metal particles will collect underneath the main body. To clean, hold the whole thing over a bin/ bucket and lift the handle on the top. This will raise the magnets away from the base and the swarf drops off. Quick & easy

Model files



main-body.stl



insert.stl



lid.stl



lifting-handle.stl



pole-bracket.stl



wheel-30mm.stl



wheel-40mm.stl



wheel-50mm.stl



wheel-60mm.stl



16mm-conduit-spacer.stl



16mm-conduit-cap.stl

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