



Adjustable magnetic push-pull drawers (monitor stand example)



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Summary

This is a push-pull mechanism that uses the repulsion of magnets. Applied to a monitor riser stand as an example.

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[deskorganizer](#) [drawer](#) [pushpull](#)

This is a push-pull mechanism that uses the repulsion of 8x3 mm magnets to open small closets.

Push all the way in and the magnetic repulsion will make the drawer bounce back open, press it gently and it will just close.

Larger drawers, or drawers you plan to fill with heavy contents may require stronger magnets, but it should not be a problem to adapt the enclosed F360 file.

The system uses an M4 screw and heat sets to hold the magnet in the frame, you can select a screw of different length (in the example here I am using M4x20) and turn them to adjust the point of engagement of the magnets.

The mechanism itself is made by the holding block, and magnet holder. Cutouts in the back of the drawer (for the magnet) and in the base of the shelf (for the holding block) are entirely optional but they do help to align things, instead of just relying on accuracy when glueing the parts together.

Here I am posting this mechanism applied to a monitor riser with drawers that my wife asked me to do.

Tolerances are deliberately generous to accomodate for 0.8 mm nozzle printing, you may get away with less on smaller nozzles, especially if your drawers design is more square.

Just keep in mind that, since the pushing force of the magnets is not very strong, the drawers must not just fit and slide when pushed by hand, they must be loose enough to slide freely.

I also suggest orienting the first layer lines strategically so that they run along the length of the drawer and not across it.

One other useful tip may be to keep the walls of the drawers a bit thick (not single wall vase mode) to prevent deformation and have some room for sanding if necessary).

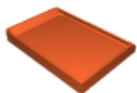
Model files



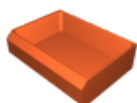
magnet-holder.stl



fixed-block.stl



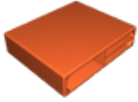
upper-drawer.stl



large-drawer.stl



lower-drawer.stl



stand.stl



magnetic-drawers.f3d

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