



Small Vise



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Summary

A small vise for holding or pressing small things. It's a quick 4-part print and uses about 24 grams of plastic.

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Tags: [little](#) [tool](#) [tiny](#) [small](#) [mechanical](#) [mechanism](#) [electronics](#) [clamp](#) [quick](#) [vise](#) [nano](#) [lightweight](#) [pcb](#) [pcbmount](#) [pcbholder](#) [circuitboard](#) [visegrip](#)

I made this small vise for little things like holding small components or pressing small things together. It is a quick and small 4-part print, with everything weighing about 24 grams when printed with 3 walls and 30% infill. I can make all the parts needed in about 2 hours, and that's using an old CR10 printer.

The vise measures 58mm L x 40mm W x 25mm H although the Threaded Rod sticks out another 15mm along the parts length. The vise has a large range of motion relative to its size and can open the jaw to a 39mm span (36mm span when using the Optional Jaw Plate). The vise is 22mm wide internally. The design is optimized for 3D printing, featuring only 45-degree overhangs, no supports, no brim/raft (unless you have build plate adhesion issues), and the Threaded Rod is printed horizontally to make the threads stronger and less likely to shear. The Threaded Rod includes a small built-

in brim to keep the small knob in place. This brim should peel off and can be cleaned up with a blade or sandpaper.

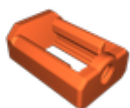
For those who plan to use this Little Vise for small electronic circuit boards and wires, there is the Electronic Sliding Jaw and Electronic Jaw Plate. These can be printed instead of the Sliding Jaw and (Optional) Jaw Plate. These feature three wire grooves for holding wires upright and a notch for holding circuit boards securely in place. These files also do not require support, but they do come with a built-in brim which can be removed with a blade or a pair of snips.

The Knurled Grip is intended to be a tight fit so that it stays put. If it loosens on you, you can do a few things. Glue it, heat it up and screw it tight, use a 3D pen to “weld” the parts together, anything should work. Alternatively, if the Knurled Grip is too tight, there is the Looser Knurled Grip with slightly enlarged threads.

The parts should move smoothly right off the printer, that being said my printer isn't perfect and has produced some lacking parts. It's annoying to deal with the tight threads which take a while to loosen up. For situations like this, I created the Drill Driver to more quickly loosen up the parts. This print also does not require support. The Drill Driver fits a 1/4 inch hex, meaning you can use just about any standard hex bit backward. Drive the Threaded Rod forward and backward for a minute or so, or as needed to loosen things up. Do not go too fast, or you may heat up the plastic too much, damage the threads, or ruin the threads entirely. Note that the vise is not meant to be drill-powered, the Drill Driver is just to loosen things up if needed. Be careful!

Any Makes would be cool to see, and feel free to let me know what you think of the design or if you had issues.

Model files



main-body.stl



threaded-rod.stl



sliding-jaw.stl



knurled-grip.stl



optional-jaw-plate.stl



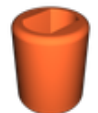
looser-knurled-grip.stl



electronics-sliding-jaw.stl



electronics-jaw-plate.stl



optional-drill-driver.stl

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