



YOUMAGINE

Replistruder v3.0

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Located at: <http://www.youmagine.com/designs/replistruder-v3-0>

Short description:

Vastly Improved Replistruder with Single, Double, and Triple Extrusion Mounts

Description:

High-performance syringe pump extruder for modern desktop 3d printers. Designed around hamilton gastight glass syringes and BD disposable plastic syringes. I may update this with more-detailed assembly instructions soon (Jan 15, 2018) MATERIALS NEEDED You will need at least: 8 x M3x16 socket cap bolts 1 x 6/32 threaded rod (4 in long minimum) 2 x M3x14 socket cap bolts 2 x M3x45 socket cap bolts 4 x 6/32 square nuts 10 x M3 hex nuts (no thicker than 3mm) Depending on whether you want 1, 2, or 3 Replistruders, you may need additional M3 hardware. SYRINGES There are different adapters for different syringes - I've included adapters for: -Hamilton Gastight 2.5mL, 5mL, and 10mL syringes -BD Plastic 10mL syringe PRINTER COMPATIBILITY The monobody carriage mounts work for Makerbot Replicators (dual, 2, 2X) and clones (Flashforge creator pro, etc.) There are also Lulzbot (Mini) and Printrbot (Simple, Jr, Simple Metal) compatible mounts. ADDITIONAL POINTS: Steps/mm (calculated) for the leadscrew: 14573.3696501 The 2.5mL syringe plate features threads for a 15mL centrifuge tube to cover the exposed syringe for storage. Print out the replistruder parts at 70%+ infill. The mounts can just be 3 perimeters and ~20% infill. The leadscrew gear uses TWO 6/32 square nuts (stacked together) to drive the leadscrew, and it's tough to get them both into that square socket on the gear. You can overtighten the top plate and thus jam the leadscrew gear. The herringbone gears have to be correctly aligned to run smoothly, so adjust the height of the NEMA gear if it feels like the gears are rough and the top plate's 4 bolts aren't super tight. Good luck - this is a very capable extruder and, if used correctly, outperforms everything I've used for printing gels. *A problem with this design is that it's important to print it correctly - i.e. accurately. If you can print the gear plate and the leadscrew gear and have them fit together and spin smoothly, you should be aok.

If you can, please use the online documentation found at <http://www.youmagine.com/designs/replistruder-v3-0> because those may have been updated. Also, there you can interact and provide praise and/or feedback.