



## Pneumatic stepper motor: T-8

V Vincent Groenhuis

VIEW IN BROWSER

updated 28. 10. 2020 | published 28. 10. 2020

### Summary

With a size of 8 x 8 x 5.5 mm and a 0.2 mm step size this motor is the smallest 3-D printable pneumatic stepper motor.

[Hobby & Makers](#) > [RC & Robotics](#)

Tags: [motor](#) [stepper](#) [pneumatic](#)

With a size of 8 x 8 x 5.5 mm and a 0.2 mm step size this motor is the smallest 3-D printable pneumatic stepper motor. The cylinder cross-section is only 2.5 mm square. Print a few spare pistons, if you drop one on the floor then you may not be able to find it back.

Video: <https://youtu.be/BBG-8ZSOmdY?t=95>

It is essential to print it in the highest possible resolution in order to make the triangular teeth as sharp as possible. If you get sine-wave shaped teeth instead then it may not work.

### Print instructions

Print on a high-resolution 3D printer, e.g. Stratasys Objet260 Connex3 in HQ mode.

Laser-cut seals from 0.5 mm silicone rubber. The cylinder cross-section measures 2.5 mm x 2.5 mm so the seals should be approx 2.6 mm x 2.6

mm. Experiment with cutting dimensions for the optimal tradeoff between good airtightness and low friction.

For advanced users only. If you are new to pneumatic stepper motors then start with a bigger one such as the T-84.

Please let me know when you print this thing. Enjoy the miniature stepper motor!

## Model files



**piston.stl**



**bottom.stl**



**rack.stl**



**top.stl**

## License

This work is licensed under a [Creative Commons \(4.0 International License\)](https://creativecommons.org/licenses/by-nc-sa/4.0/)



**Attribution—Noncommercial—Share Alike**

- 
- ✗ | Sharing without ATTRIBUTION
  - ✓ | Remix Culture allowed

- ✖ | Commercial Use
- ✖ | Free Cultural Works
- ✖ | Meets Open Definition