



## Pneumatic fitting with M5 thread for 4mm tubing



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### Summary

Fully functional replacement for metal fittings, tested up to ca. 1 bar.

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Fully functional replacement for metal fittings, tested up to ca. 1 bar. Comes in four versions, barbed, straight-long, straight-short, and 90° angular.

Use with 6x1.5mm or 5x1mm O-rings. Can be tightened with a 7mm wrench, but don't pull too tight or the threaded part will break off. For the 90° angular part, use different size O-rings, e.g. 6x2mm, to influence the angle.

For a tight fit, the part that touches the O-rings needs to be smooth and even. This is why it's important to print the threaded part up. I included versions with rafts to make this easier.

For working M5 threads you'll need layer heights  $\leq 0.12\text{mm}$ . I found that PETG will be more robust and tighter than PLA.

For the thinnest part, Cura will use the Lift Head feature if print speed is too high, which will quickly lead to oozing and stringing, especially with PETG. To prevent this, I disabled Lift Head, set Minimum Layer Time to 4s and Minimum Speed to 3mm/s, at a global speed of 30mm/s.

For mass printing I prefer Print Sequence set to "One at a Time", it reduces stringing and the risk and costs of print failures.

For a tight fit of the flexible tube, the surface needs to be as smooth as possible. So if there's stringing it's best to sand the tube connecting part. Particularly for the 90° part this is mandatory.

If needed, drill the inner part with a 0.8mm or 1mm drill to enhance air flow. Friction will quickly heat up the material beyond its glass transition temperature, so pause often to allow for cooling.

## This remix is based on



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by juh

## Model files



**m5\_fitting\_straight\_v5.stl**



**m5\_fitting\_barbed\_v5\_withRAFT.stl**



**m5\_fitting\_straight\_short\_v5.stl**



**m5\_fitting\_straight\_v5\_with\_raft.stl**

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**m5\_fitting\_straight\_short\_v5\_with\_raft.stl**

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**m5\_fitting\_barbed\_v5.stl**

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**m5-fitting-straight-90-deg-v5.stl**

[Find source .stl files on Thingiverse.com](#)

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