



Spirographic WDT - starreacher

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updated 9. 10. 2023 | published 9. 10. 2023

Summary

A slim spirographic Weiss Distribution Tool (WDT) based on cogs with inserted acupuncture needles

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Apart from the 3d printed parts the following things are required:

- 4x M3 melt inserts D4.6 X L4.0(<https://de.aliexpress.com/item/4000232858343.html?spm=a2g0o>)
- 12x Acupuncture needles 0.3x60 mm (<https://de.aliexpress.com/item/1005002953770367.html?spm=a2g0o>)
- 4x Bearing MR74ZZ 4x7x2.5mm (<https://de.aliexpress.com/item/32839200757.html?spm=a2g0o>)
- 4x M3 bolt ~ 5 mm

The tool can be assembled as follows:

1. Print all parts (I did mine out of PETG on a Mini+)
2. Add the holt melt inserts into the cogs
3. Use a lighter to heat up one of the needles and push it into one of the holes on a cog. Test the length by mounting just that cog
 1. Align the top and the bottom

2. Put a shim over a M3 bolt, push through the top and screw on the cog through the bottom
 3. Check the length of the needle on your portafilter
 4. Snip to required length
 5. Cut the rest of the needles to the same length and mount them in the cogs
4. The top part can fit an optional disk (e.g. CNC machined out of PMMA)

Model files



starreacher_v1_top.stl



starreacher_v1_screw_shim.stl



starreacher_v1_bottom.stl



starreacher_v1_cogs.stl

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