PET Bottle Self-Watering Attachment - PET Bottle Upcycling

bweath

VIEW IN BROWSER

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Summary

This stylish PET Bottle Self-Watering attachment is perfect for upcycling your waste PET bottles into something useful!

Household > Outdoor & Garden

Tags: upcycling upcycle watering garden home gardening plants petbottle

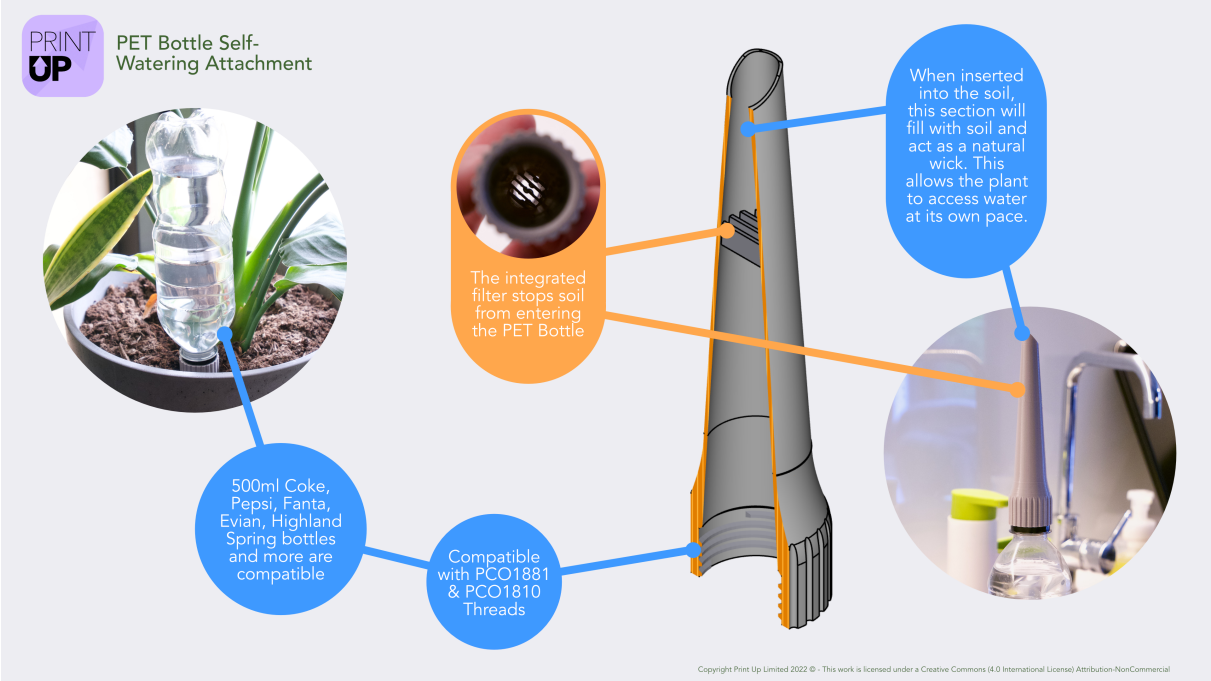
— Updates —

27/08/2023 - Okay, I've had quite the busy year 😄 So I'm finally getting around to creating lower flow versions as well as looking at different threads and integrating washers for a tighter sealed fit. Should be around a month from now when these will be posted.

09/08/22 - Low Flow variant now in testing. This version will help restrict water flow to approx 1⁄4 of the normal variant total water flow. The goal is for this to provide a slower release of water for less water-hungry plants and for people wanting to leave the watering solution in for up to 1 week. **Expected release 15/08/22**

About

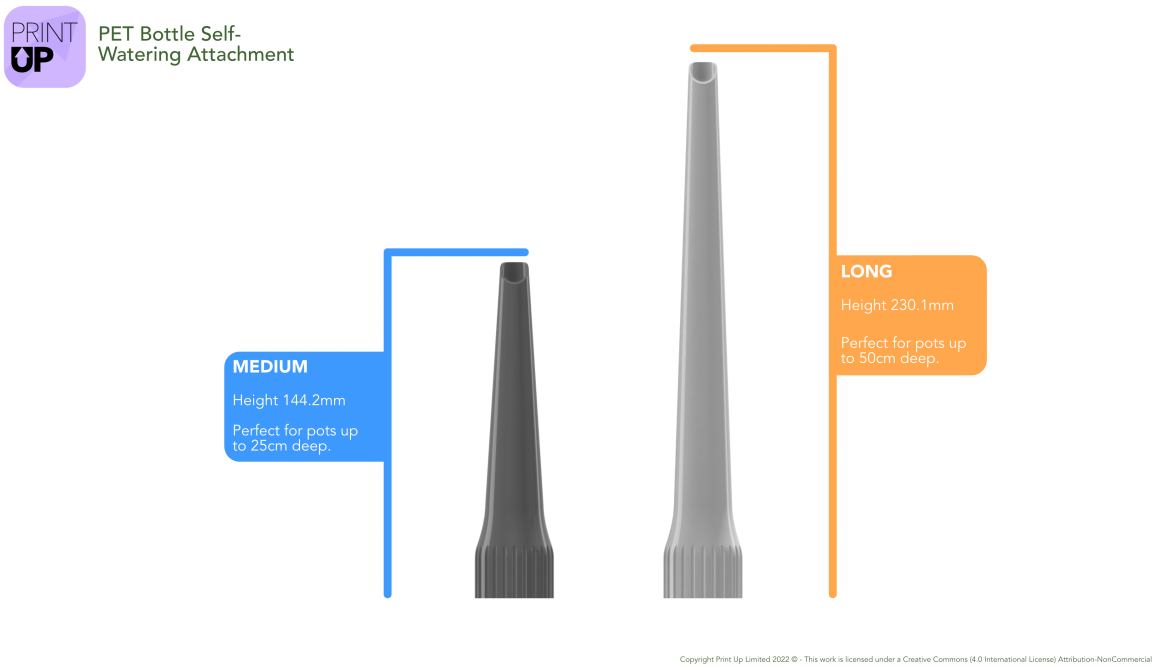
This stylish PET Bottle Self-Watering attachment is perfect for upcycling your waste PET bottles into something far more useful. This Self-Watering system is designed to create a secure placement in the soil and use the soil as a wick. This allows a slow release of water used at the plant's own pace.
The design currently accommodates the popular PCO 1881/1810 thread used in Coke, Pepsi, Fanta, Evian, Harrogate Spa bottles etc. Bottles with larger threads such as Oasis cannot be used (this will be coming in V2).



Sizes

There are 2 versions available:

- Medium (Height 144.2mm) - For pots up to 25mm deep
- Long (Height 230.1mm) - For pots up to 50mm deep



HOW TO USE

***Note,** Before inserting into your chosen plant pot, give the soil a quick water beforehand. If the soil is dry your self-watering attachment may empty quicker than normal to soak the soil. Try to avoid overwatering and let your soil dry out from time to time to avoid root rot.

PRINTING

You should print these attachments out of PETG or PET for the best results.

To ensure the best strength results, your PETG temperature settings should be around 250°C with a bed temp of 90°C. If you're experiencing high stringing, do not worry, give it a blast with a heat gun, then a quick brush

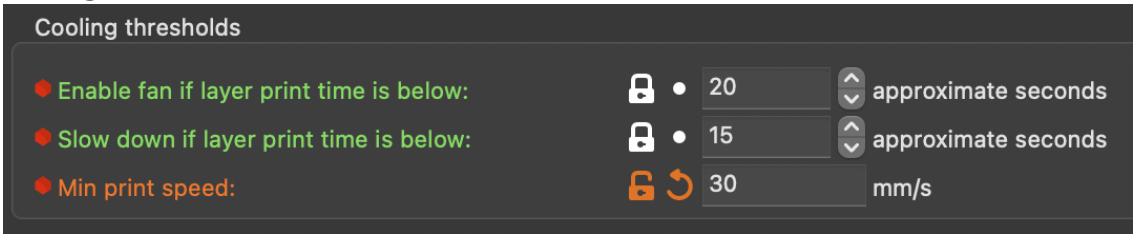
with a nylon brush and wipe down with a cloth to get rid of any remaining strings.

Exterior Perimeters settings

To ensure the best results ensure that the **Exterior Perimeters** are printed at the same speed throughout the entire model. I recommend a speed of 25 or 30mm/s max for the cleanest results. To ensure this make sure you change these settings in your slicer:

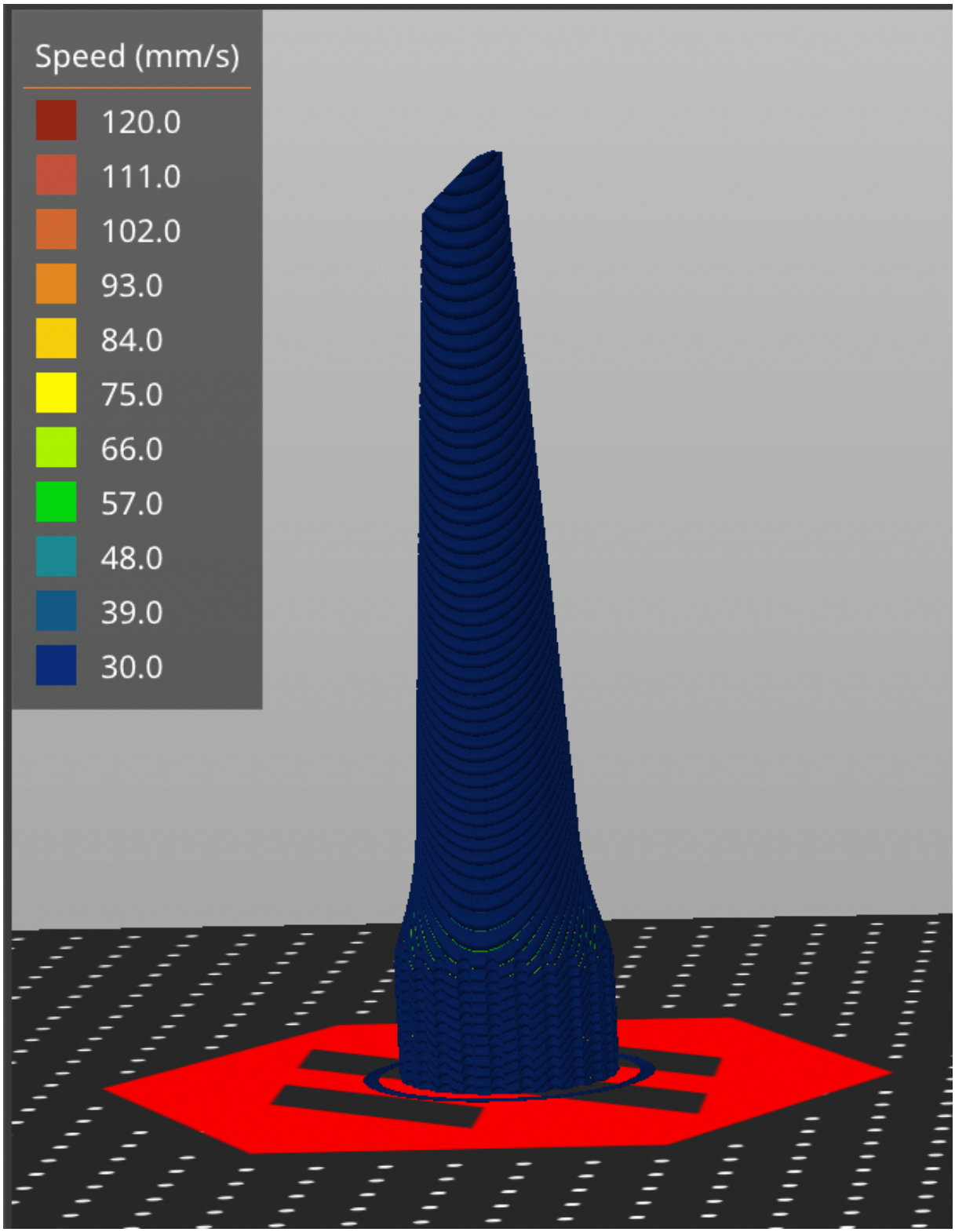
1. Exterior Permeters = 30mm/s

2. In your Filament Settings, look for Cooling Thresholds. If you have a min-print speed set that is lower than your External Perimeters, change this to match.



Why change these settings? This ensures that the exterior of the print does not experience undesirable lines and helps create a nice smooth finish.

Please check the speed of your exterior perimeters in your slicer before continuing. It should look something like the image below.



Bridging
Please ensure your bridging cooling is set to 100%. This is to ensure the filters inside the nozzle print at their best.
Cooling
Fan settings should be between 50 & 75% to ensure minimal stringing but max adhesion.

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Are you part of a community project or would you like to make this

commercially? Please get in touch info@printup.xyz to discuss. We offer a range of licences for this kind of use. Licences for community projects are free of charge and require only clear attribution.

Model files

pet-self-water-pco1881-thread-v1-medium.stl

Height = 144.2mm

pet-self-water-pco1881-thread-v1-long.stl

Height = 230.1mm

pet-selfwateringattachment-sliced-prusamini.3mf

A sliced version for the Prusa Mini or other printer with my recommended settings for PLA+

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