

Master List Of STLs

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 - UY166060 Ferrite Core Bobbins

Resonant Cavities

Version 1 - Single Hexagonal Design - Doesn't Require Machine Tubing

Author does not accept and liabilities/responsibilities for those individuals who chose to build the below cell. This information on this site is for educational purposes only.

Chris Bake using this design: [10 Cell Tubular Resonant Cavity](#)

My YouTube video: [My Video](#)

Cavity shown on Chris Bake's YouTube channel: single cavity with entry/flow holes at bottom. Accepts 3/4" (19.05mm) and 1/2" (12.7mm) stainless steel tubes. Nuts recessed are sized for 10-32" stainless steel nuts, and 10-32" stainless steel (18-8) set screws. Top accepts 1/2" long 10-32 set screws, bottom accepts 5/8" long 10-32 set screws. Holes are sized for 10-32 tap to thread if desired. 3D filament is regular PETG. Should only need 1 spool of filament, as all prints were done at 50% infill.

Supplier Sites: [10-32 SS Nuts](#) , [1/2" 10-32 SS set screw](#) , [5/8" 10-32 SS set screw](#) , [1/2" OD, 0.065" Wall, 0.375" T-304 SS Tube](#) , [3/4", 0.035" wall, 0.68" ID T-304 SS Tube](#) , [T-304 SS connecting wire](#) , [PETG Filament](#) ,

[hex resonant cavity with flow holes \(2\).stl](#)

[image1667233965315.png](#)

Base plate that accepts 10 of the single resonant cavities above. The cavities outer body will need to be filed a little to provide press fit into the below plate. Holes on the outer edge are for 6-32" tap if so desired to prevent resonant cavity from coming out if loose fitting happens.

WFC base plate v1 v0 (2).stl

image 1667233980842.png

Depending on the vessel diameter used, the base plate may need to be reduced in OD. I accomplished this with a bench grinder and sandpaper. Needle nose pliers are helpful in tightening connections. A 10-32 tap was run through holes that set screws go into. Connect two in series at a time for easier construction/wiring. The OD diameter of the base was intended for the 5.75" ID acrylic tube I used. However, any clear vessel or bucket can be used for testing. Nothing specific for the base being 5.75" OD.

The 3/4" SS tubing needs cut to a length of 3.00"

10 qty total needed (total length of 30.00" minus blade width for 10 cuts, approximately 5/8", need 31" total)

As of 12/01/2022 above supplier has 36" length for \$21.71

The 1/2" SS tubing needs cut to a length of 3.50"

10 qty total needed (total length of 35.00" minus blade width for 10 cuts, approximately 5/8", to 36" total)

As of 12/01/2022 above supplier has 36" length for \$37.34

Many methods for cutting can be used, whichever is available to the builder.

As of 12/01/2022, PETG filament is \$20.00

20 qty, 10-32 SS nuts (\$0.08/ea)= \$1.60

10 qty, 10-32 x 1/2" SS set screws (\$0.17/ea) = \$1.70

10 qty, 10-32 x 5/8" SS set screws (\$0.20/ea) = \$2.00

As of 12/01/2022 above supplier has SS wire for \$7.99

With the itemized list above, the cost to print/assemble this cell is approximately: \$92.34

Version 2 - Two Cell Holder - Requires Machined Tube Sets

Version 3 - Single Cavity Holder - Requires Machined Tube Sets

DIY Inner Electrode Machining Template

VIC5 Transformer Bobbins & Ends

VIC5 - Estate Replica - Flat Ferrite Cores

VIC5 Transformer Bobbins & Ends

VIC5 - Large Ferrite Core

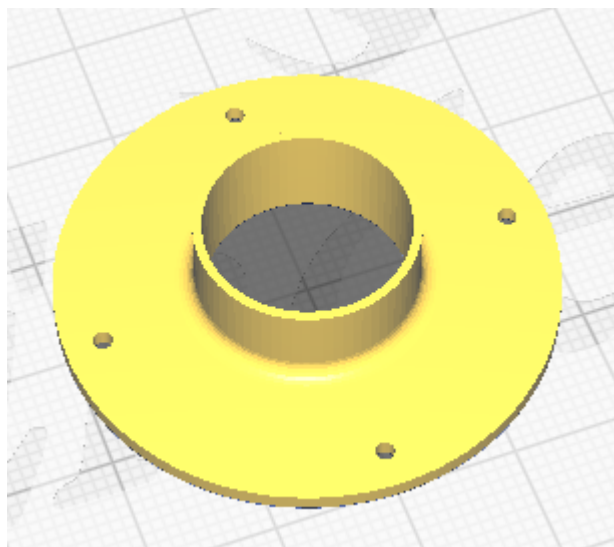
VIC4 Coil Bobbins

Amazon U Cores - UY1658 /60

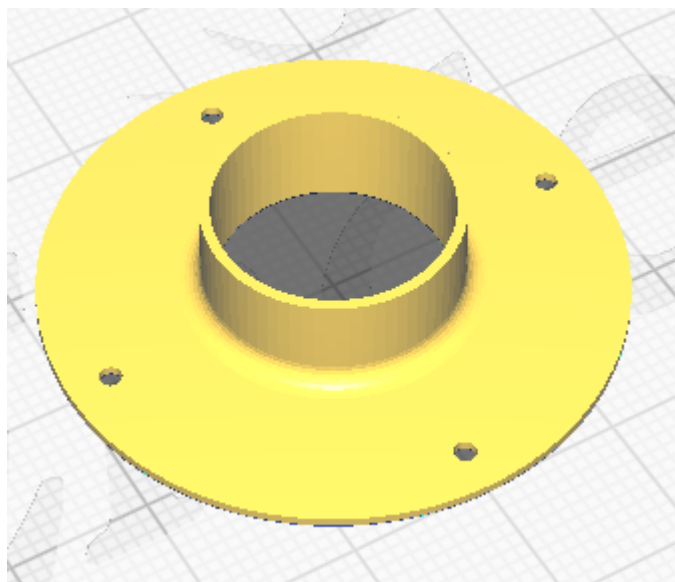
The following bobbins were designed to fit with the following U cores from Amazon: [UY1658 /60 Cores](#)



0.060" Piece STL: [060_Half Piece.stl](#)



0.030" Piece STL: [030_half piece.stl](#)



UY166060 Ferrite Core Bobbins

Further updates coming soon

These ferrite cores were utilized because they can accommodate winding ratios that equal Stan's originals and/or allow experimentation for matching inductance values with different gauges, coil configurations (bifilar C1 & C2 in addition to layered Lp & Ls). All STLs and dimensions are free to download.