

## Custom Voron V0.1 Light X-Axis



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### Summary

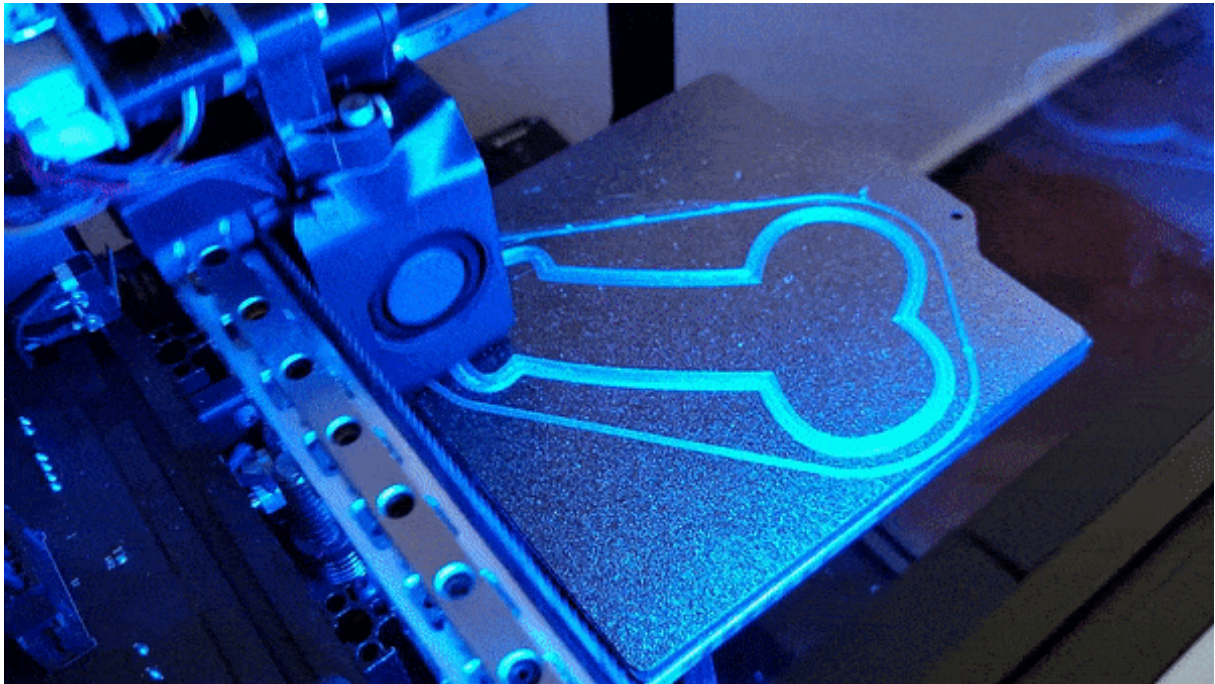
A light version of the Voron V0.1 Axis. I was inspired by Premiumbasics and his ultra light Axis.

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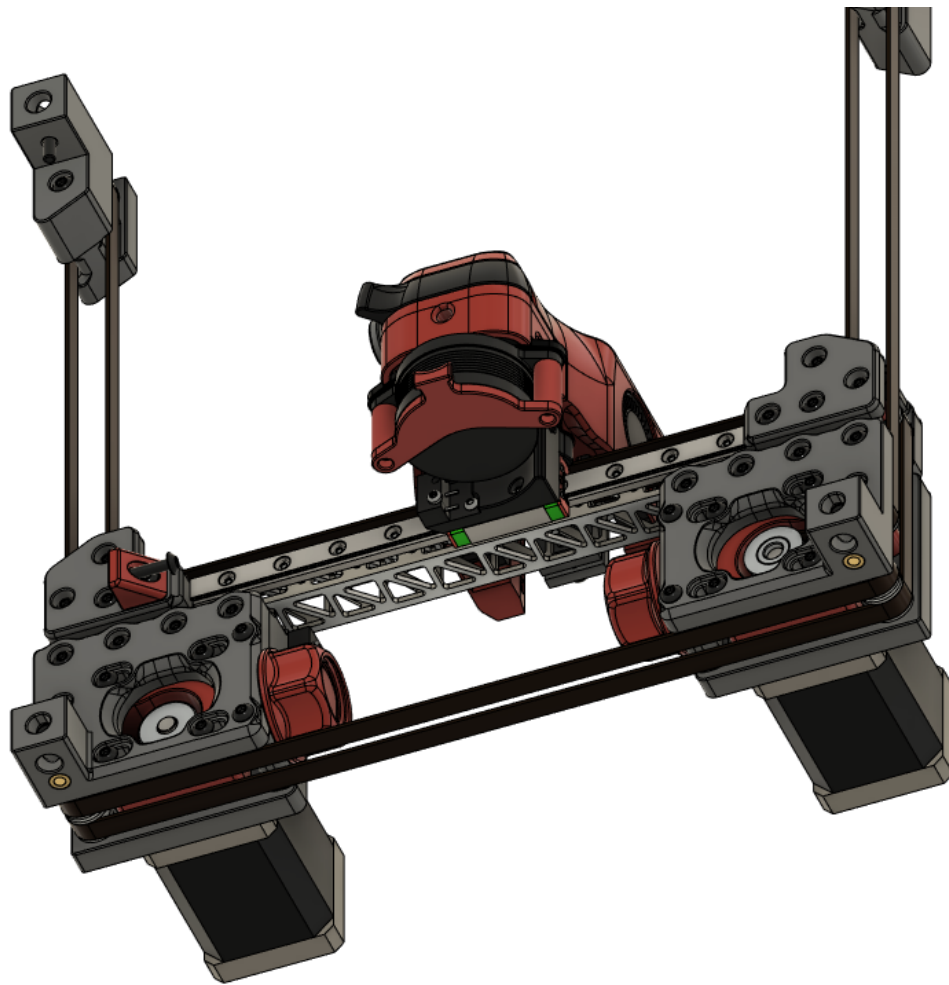
A lightweight version of the Voron V0.1 Axis. I was inspired by [Premiumbasics](#) and his ultra light Axis. I wanted to try out what I can do by myself. I designed the axis in Fusion360

### First Test:

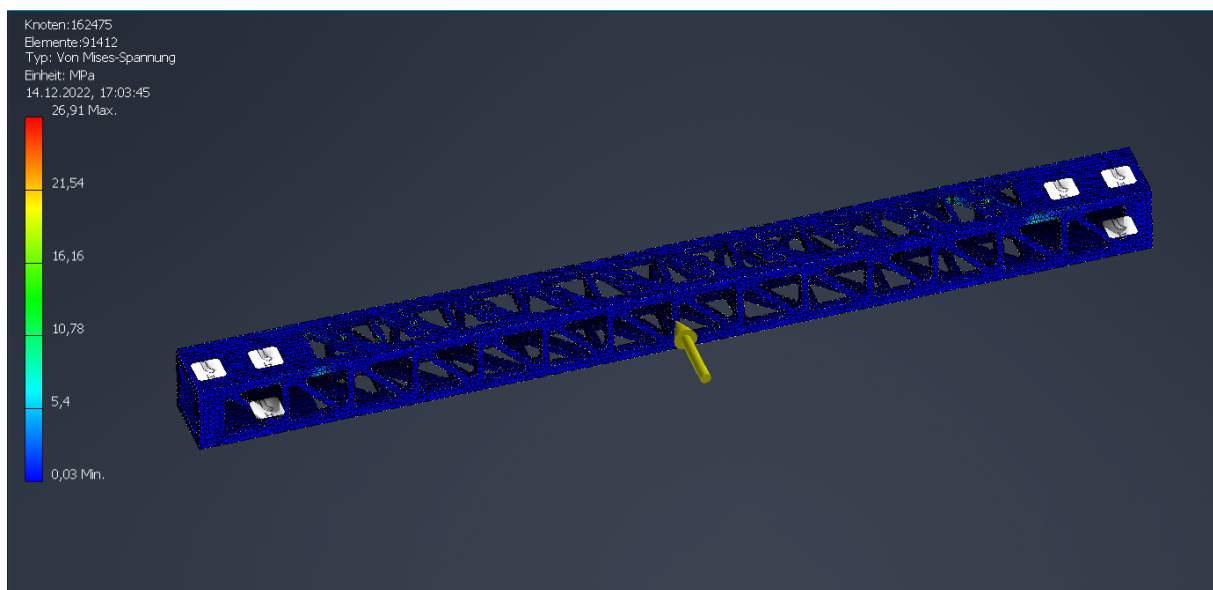


**What do you need:**

- 15\*15\*200 mm with 2 mm wall strength
- A CNC machine with multiple setups

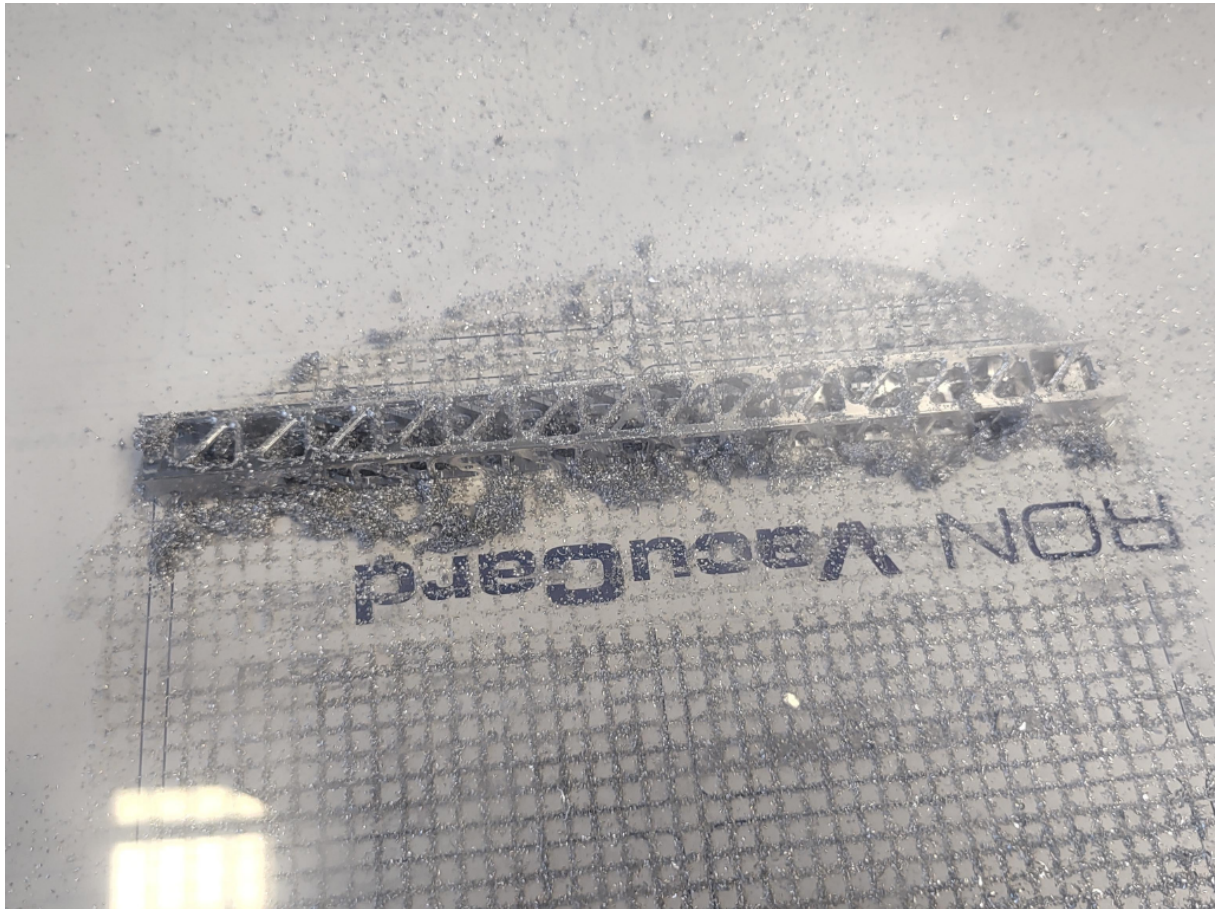


I created an FEM analysis with a weight of 0.278g with an acceleration of  $15k \text{ mm/s}^2$  what would result in a force of 4.2 N. In the FEM analysis I used a force of around 90 N, so the thing should keep up with specs of the voron v0.1. I maybe will design an even smaller and lighter version.

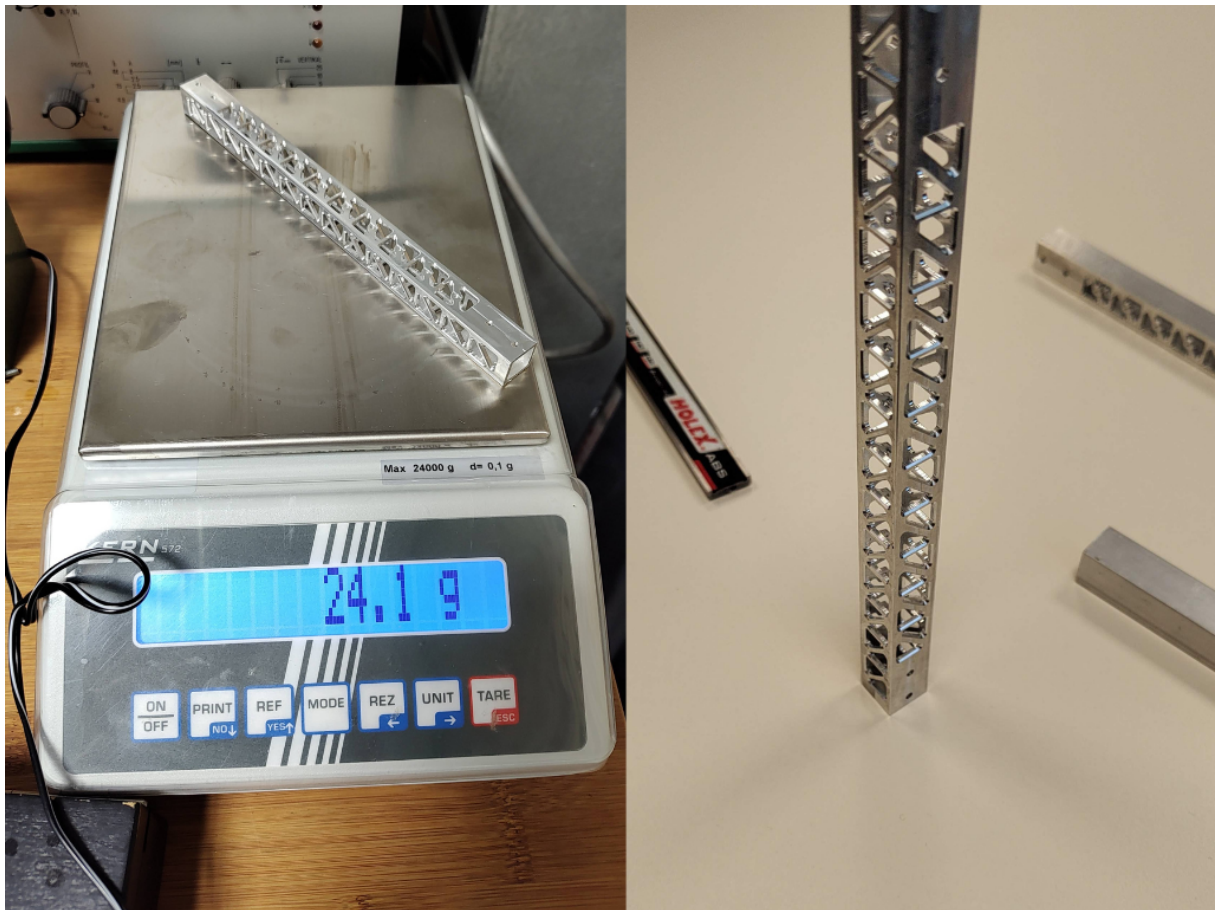




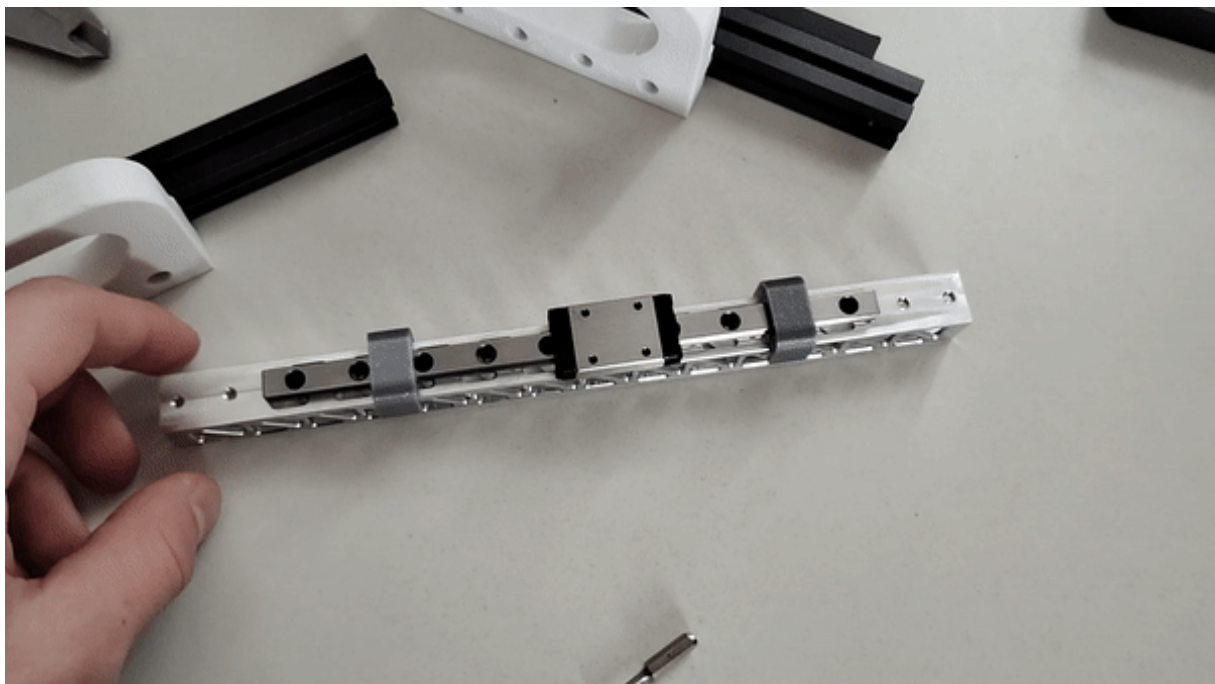
I used Inventor CAM to program the Datron Neo for cutting the aluminum.



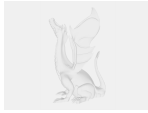
The axis weight 24.1g add the end with a length of 200mm. The original part weight 55g, so I reduced the material about 44%. The weight of the original axis was.



Furthermore, I also made some adjustable spacers, because I made my rail 14.2 \* 14.2 mm. I want to try to go even lower, but that's something for the future.



# Model files



**part2.ipt**



**x-axis.stl**



**aliner.stl**



**voron-v01-ultralight-x-axis-v18.f3z**



**xy\_joint\_right\_upper\_x1.stl**

☐ Edit the parts for a 0.4mm space, so you could use the old ones



**xy\_joint\_left\_upper\_x1.stl**

☐ Edit the parts for a 0.4mm space, so you could use the old ones

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