PYROGRAPH

# Introduction

# Build

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| --- | --- | --- | --- |
| File name |  | Description | Number of prints |
| supaxeY.stl |  | Y axis support (4) | 4 |
| carriageYleft.stl |  | Left Y axis carriages | 1 |
| carriageYright.stl |  | RightY axis carriages |  |
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Other pieces:

* 4x 8mm rods
* 8x 8mm linear bearings (LM8UU)
* 3x NEMA 15 stepper motors
* 3 x 20 tooth GT2 pulleys
* 5x 6mm GT2 pulleys
* 3x 6mm GT2 belt
* Different length 3mm screws

# Annexe : Grey value rendition

The heating element is a nichrome wire (nichrome 80 22 AWG). The length of the wire is 6 cm and the resistance is about 0.25 Ω at ambient temperature. The current is provided by a power supply using its current limitation capability.

Gray scale is obtained by varying the speed of the heating element. Assuming that i is the level of gray varying between 0 and 15, the speed is calculated by

Where and are the minimum and maximum speed. The parameter γ gives the contrast. If the speed varies linearly with the gray level i.