

# Project embedded 3D printer

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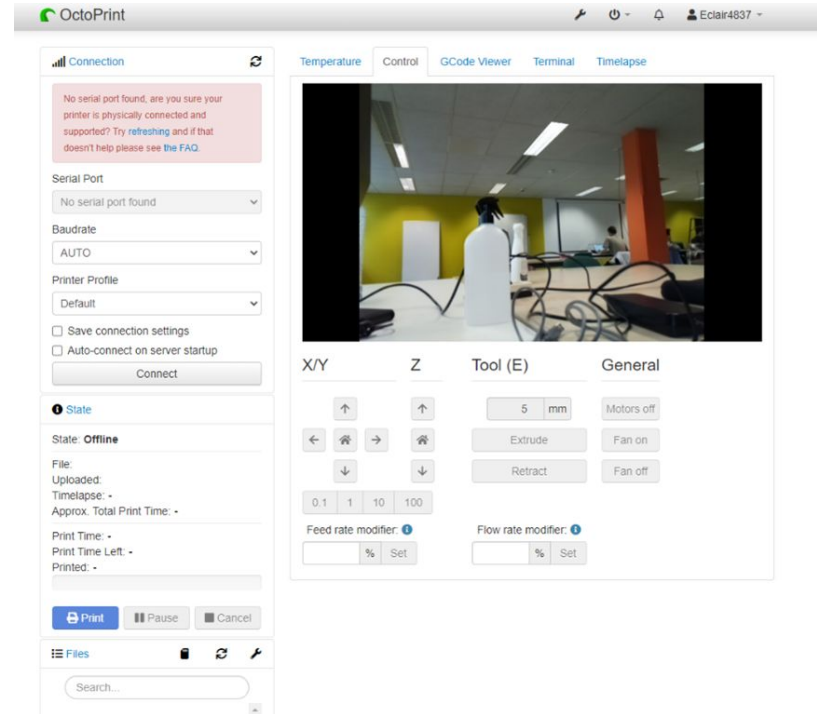
# Intro

- Prusa i3 MK3S+
- Raspberry Pi 4
- OctoPrint (octopi)
- CSI camera module



# Raspberry Pi verbinden met 3D printer

- Raspberry Pi Imager
- OctoPrint - software



# Firmware updaten van 3D-printer

- plugin: FirmwareUpdater
- specifieke instellingen voor Prusa printer
- firmware downloaden
- Install

## Firmware Updater



Serial Port

/dev/ttyACM0



... from file

Browse...

Flash from File

... from URL

Flash from URL

### Instructions

1. Click the wrench icon in the top right corner and configure the settings for the plugin
2. Either click the 'Browse' button to upload a file, or provide a URL to a file
3. Click the appropriate 'Flash from' button
4. Wait for the flash to complete

### Warning





As with any firmware flashing there is a risk that things may go wrong.

- **Do not** power-cycle or restart your printer while flashing is in progress
- **Do not** attempt to flash a firmware file which includes a bootloader

No warranty is given, and no responsibility can be accepted if there are problems. By using this plugin you accept the associated risks.

# Continuous Print

- Queue
- bedclearing

<input type="checkbox"/>	Job?	Progress?	local
<input type="checkbox"/> Job 3		1/1	
▶ moerbuis_0.2mm_PLA_MK3_12m....		1/1	
<input type="checkbox"/>		1/1	
▶ Cilinder_0.15mm_PLA_MK3S_6m....		1/1	
<input type="checkbox"/> Job 1		1/1	
▶ Cilinder_0.15mm_PLA_MK3S_6m....		1/1	
<input type="checkbox"/>		3/3	
▶ Cilinder_0.15mm_PLA_MK3S_7m.g...			
<input type="checkbox"/>		1/1	
▶ Cilinder_0.15mm_PLA_MK3S_7m.g...			
<input type="checkbox"/> Job 2		1/1	
▶ Cilinder_0.15mm_PLA_MK3S_7m.g...			
▶ Cilinder_0.15mm_PLA_MK3S_6m....		1/1	

# Bedclearing

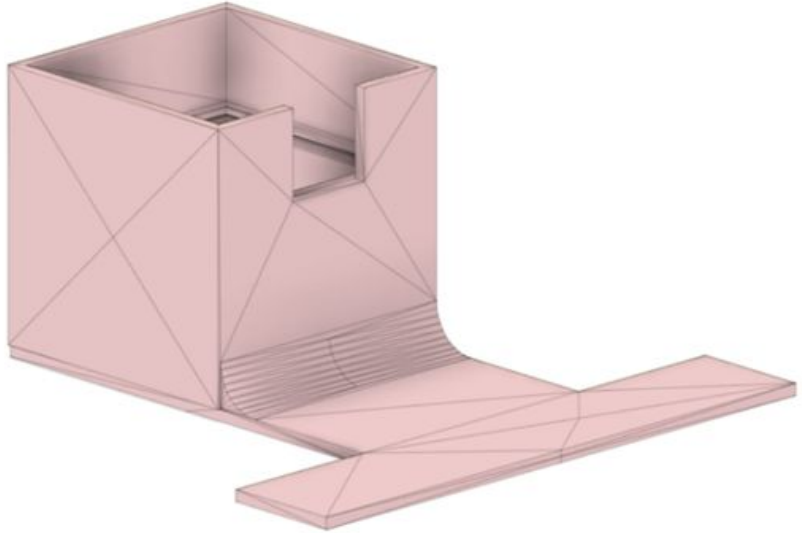
- Prints van bed verwijderen
- meerdere sweeps

```
G1 Z 210 F3000 ; move up
G1 X0 Y200 Z 210 F3000 ; move back and sideways
G1 X0 Y200 Z 80 F3000 ; move down
G1 X0 Y000 Z 80 F3000 ; move forward
G1 X0 Y200 Z 80 F3000 ; move backwards
G1 X0 Y200 Z 1 F3000 ; move down
G1 X44 F3000; move in x for first sweep
G1 Y45 F3000; move forward for first sweep
G1 Z50 F3000; move up
G1 Y200 F3000; move back
G1 Z1 F3000; move down
G1 X116 F3000; move in x for first sweep
G1 Y45 F3000; move forward for second sweep
G1 Z50 F3000; move up
G1 Y200 F3000; move back
G1 Z1 F3000; move down
G1 X209 F3000; move in x for first sweep
G1 Y45 F3000; move forward for second sweep
G1 Z50 F3000; move up
G1 Y200 F3000; move back
G1 Z1 F3000; move down
```

# Bumper versie 1

Minpunten:

- Lip te breed
- Onderkant te dun



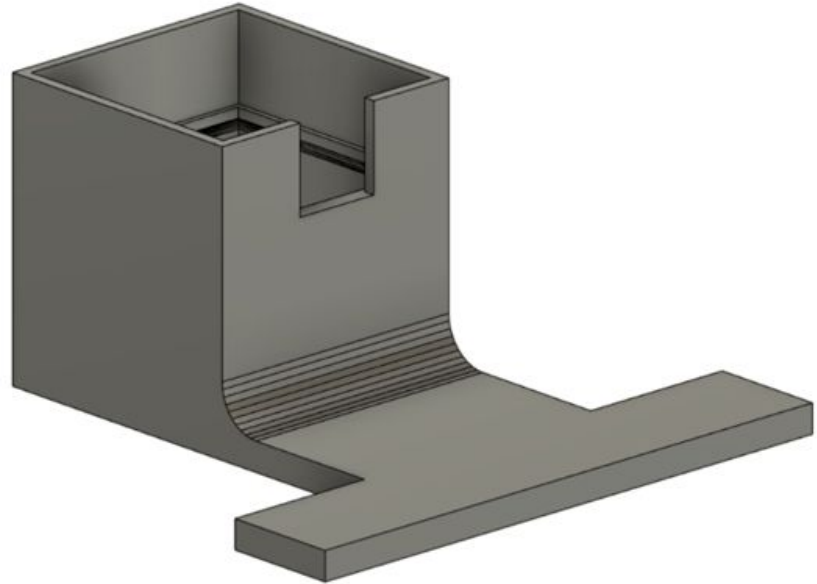
# Bumper versie 2

Verbetering t.o.v. versie 1

- Aanpassing lip (lip/2)
- Achterkant 5mm dik

Minpunten:

- Insnijding te kort





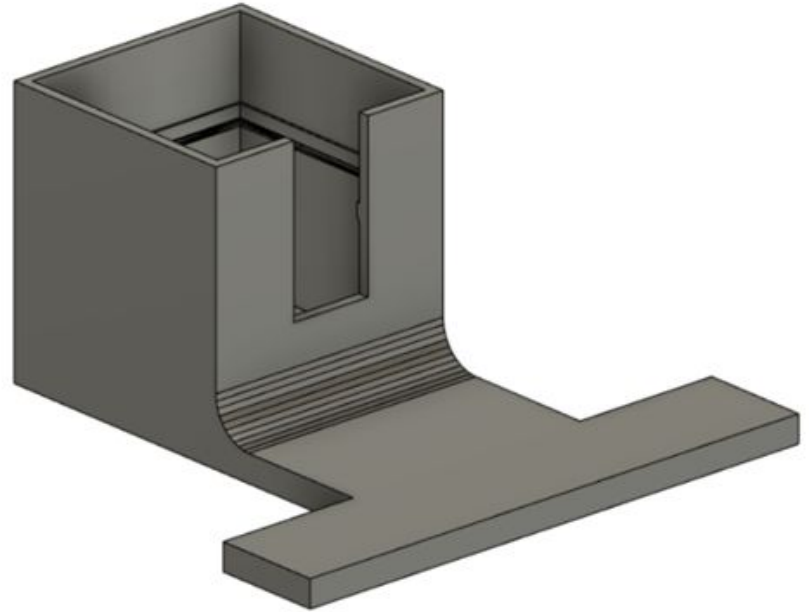
# Bumper versie 3

Verbetering t.o.v. versie 2

- Insnijding langer gemaakt (30mm)

Minpunten:

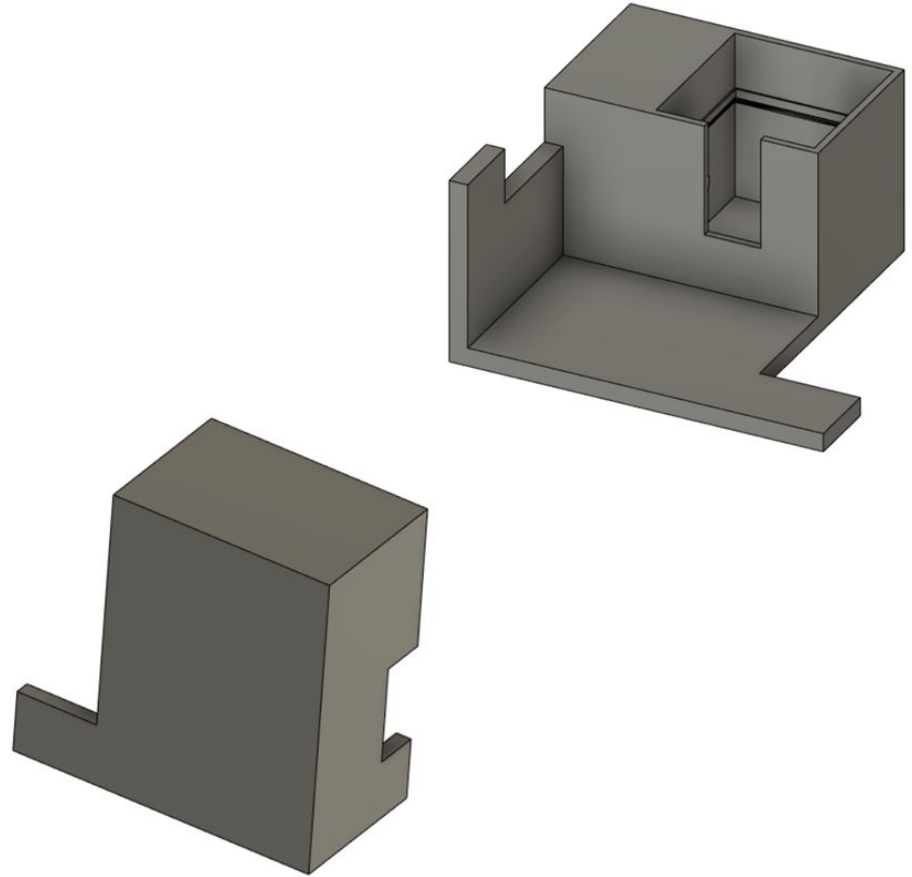
- Insnijding te kort



# Bumper versie 4

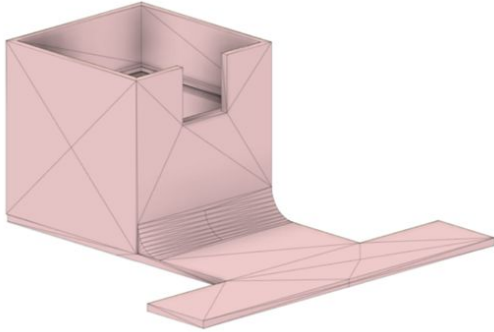
Verbetering t.o.v. versie 3

- Zijkant bijgevoegd

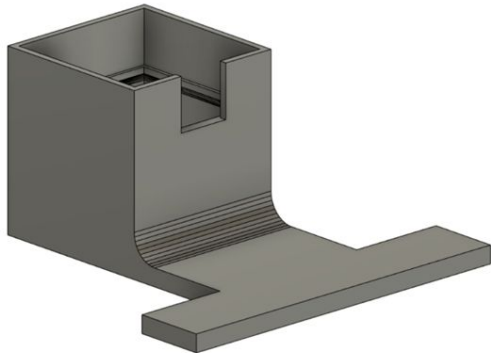


# Alle bumpers langs elkaar

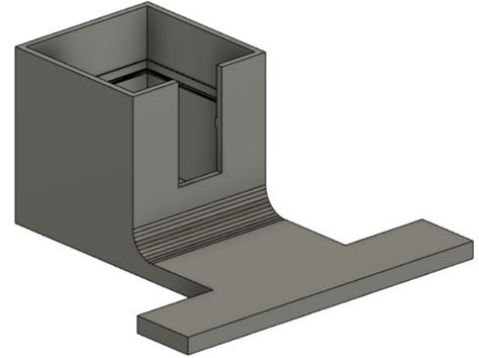
1.



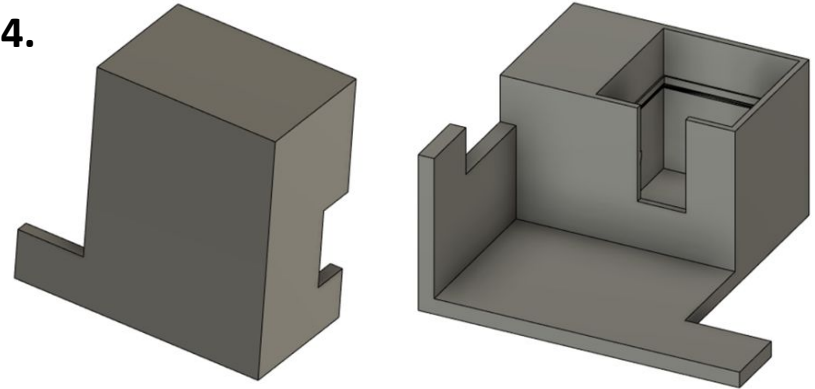
2.



3.



4.



# Raspberry Pi via SSD

- Stabieler
- sneller

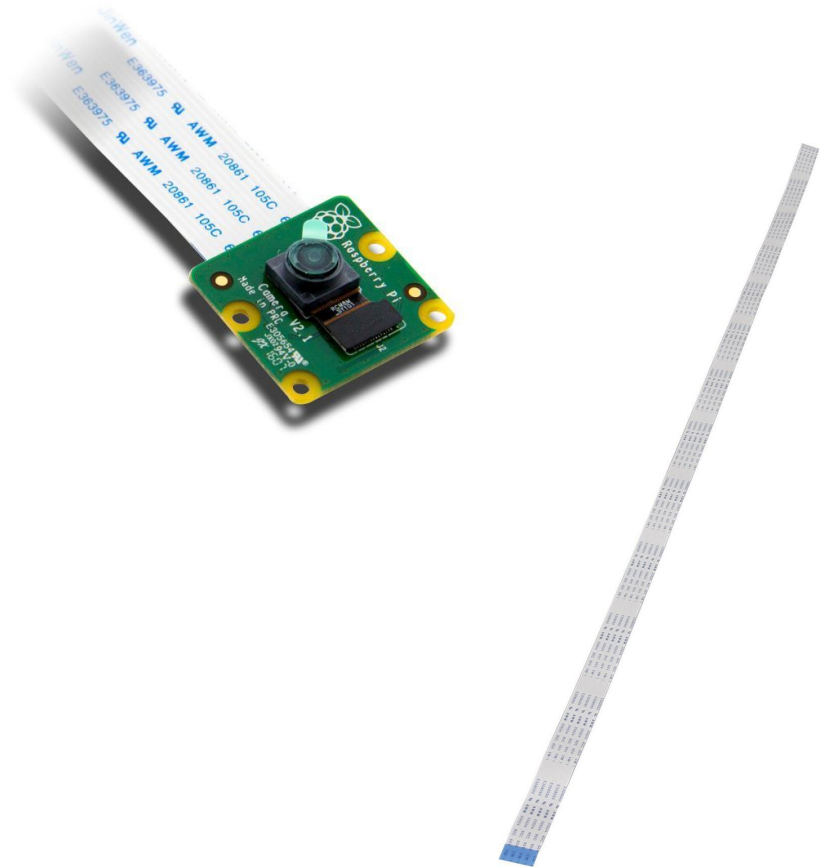


# CSI Camera

Csi camera <-> Raspberry Pi

Benodigdheden

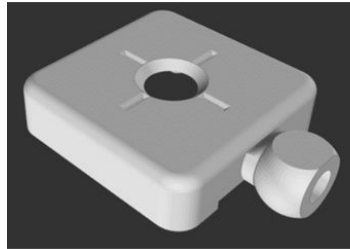
- Langere camera kabel (75cm)
- Staander voor camera



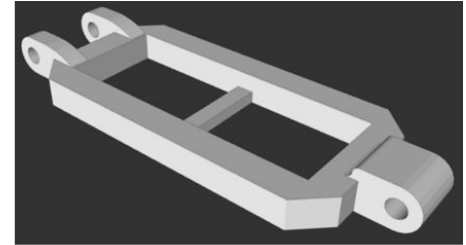
# Camera staander

Staander bestaat uit

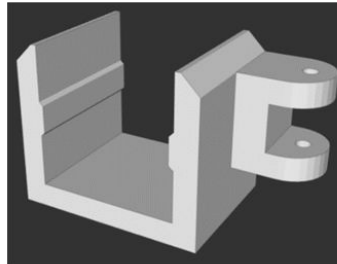
- Camera behuizing
- Verlengstuk
- Beugel
- Drager camera behuizing



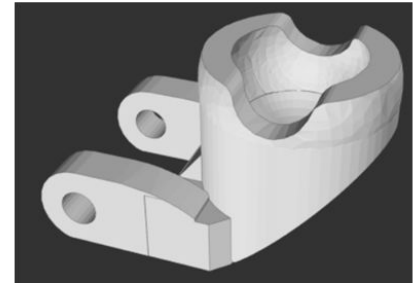
Camera behuizing



Verlengstuk



Beugel




Drager camera behuizing


# Plugins

- Display layer progress
  - Info / vooruitgang print naar server sturen
  - Laten zien op printerdisplay
- Print time genius
  - Berekenen printtijd / resterende printtijd
  - Samenwerken met Display layer progress
- Octo text
  - Melding geven bij: Start/stop/pauze/einde print
  - Foutmelding mailen
  - Benodigdheden: mailadres + ww

# Log files

- overzicht gebruikers
- Korte beschrijving
  - Starttijd
  - eindtijd
  - duratie
  - succesvol of niet

 top\_layer\_v3\_0.2mm\_PLA\_MK3\_6h58m\_v3.gcode (12.7MB)

 **Start** 22.12.2022 10:58 **Height** 74.0 / 25.0mm **Nozzle** 215.0°C  
**End** 22.12.2022 18:02 **Layer** 125 / 125 **Bed** 60.0°C  
**Duration** 7h3m28s

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General **Tool measurement** Costs

Spool \*

Spool Vendor\*

Material \*



\* spool values will not be reflected to Spool- or Filament-ManagerPlugin

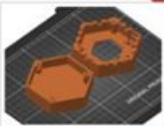
Used length  m

Calculated length  m

Used Weight  g


---

 Capture  Delete Image



Browse Image:

---

**B** **I** **U** **A** **X** **≡** **≡** 

[Slicer Settings](#) [Technical Log](#)
















# Script gebruikers

- API Key
- CSV uitlezen
- Wachtwoord genereren
- Gebruikers aanmaken
- Mail sturen
- Gebruikers verwijderen

## Access Control

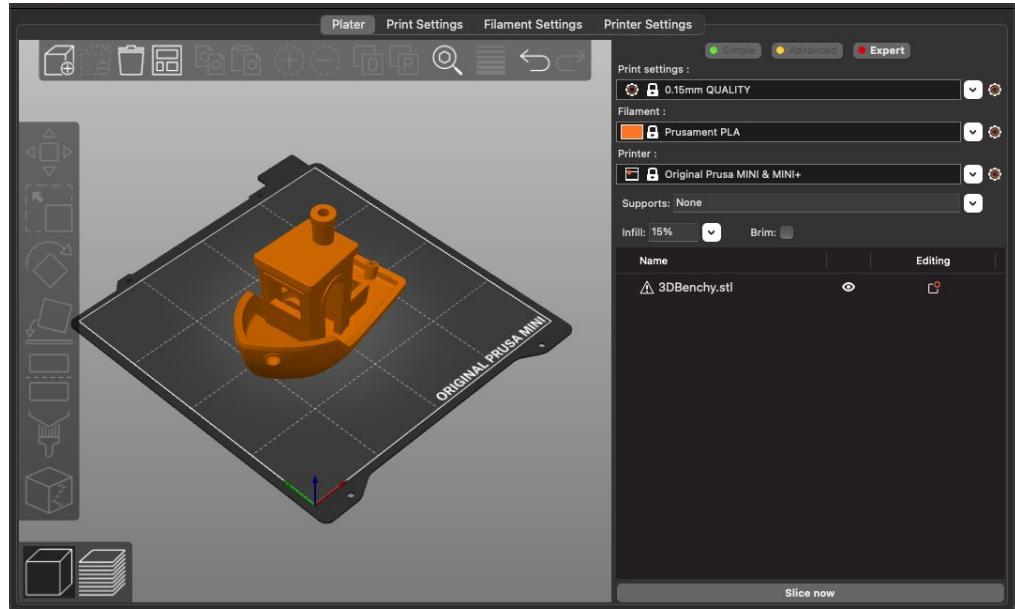
Users

Groups

Name	Details	Active	Action
Bo-Mengels	Groups Permissions Studenten	<input checked="" type="checkbox"/>	  
Eclair4837	Groups Permissions API Key Admins, Operator D3589C35B9A840CCB83D69C59FE1475D 	<input checked="" type="checkbox"/>	  
Gijs-Jackers	Groups Permissions Studenten	<input checked="" type="checkbox"/>	  
Martijn-Guilliams	Groups Permissions Studenten	<input checked="" type="checkbox"/>	  

# Tutorial voor studenten

- PrusaSlicer
- Instelling voor 3d-printer
- Eigen account



# Wan verbinding

- Toegankelijk voor iedereen
- Poort 24081

