



Blue-CNC/ Nema23+Arduino

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VIEW IN BROWSER

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Summary

BLUE-CNC (nema23) Version 1.0 Like many others, I was interested in building a 3D printed cnc, in fact I opted for the...

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BLUE-CNC (nema23) Version 1.0

Like many others, I was interested in building a 3D printed cnc, in fact I opted for the TopsCNC (<https://www.thingiverse.com/thing:3813481>)

But after starting the construction of the TopsCNC I thought that a mechanic based on Nema 17 motors might not be enough, so I decided to adapt the design to some Nema 23 motors, when I realized I had already modified 60% of the design, that's when I launched to completely modify the previous design.

The particularity of the design is a DIY CNC, which mounts Nema 23 motors, being aware that this increases the price of the design, I decided to save part of the budget, installing the entire system with GT2 belts instead of screws.

The electronics part is built by an arduino UNO and a Cnc Shield, with TB6560 drivers.

In my case, use 1000mm aluminum profiles, and the working area I can get is 850mmx850mm.

Actual budget

In 3d filament 1.8 kg would be necessary, in my case it was Petg for the most part, it can also be made in PLA.

Petg € 24 / kg = € 45

PLA € 19 7kg = € 36

In necessary materials we have 330 € with milling machine included

The economic cost would be around 370 €.

Listing necessary things

Screws:

22u - Wooden screws (depends on the base you use)

22u - M5x50

12u - M4 x25

8u - M6x30

8u - M4x10

30u - M4x15

8u - M4x30

2u - M4x25

24u - M6 nuts (wheel spacers)

6u - M5x35

32u - Nut for slot 5 type-I [M4]

Components:

4u - V-Slot 20x40mm- 1000mm

1u - Closed GT2 Belt 280mm 140 teeth

3u - GT2 20 teeth pulley 8mm axle

2u - SC8UU linear bearings

1u - RPTS trapezoidal threaded spindle right TR 8x1,5

1u - Trapezoidal spindle nut - flange EBFM 8x1,5

8u - Bearings 608 2RS 8x22x7mm

1u - Precision steel shaft Ø8mm 1000mm

2u - Precision steel shaft Ø8mm 180mm

1u - Closed GT2 Belt 200 mm 100 teeth

4u - GT2 Pulley 40 teeth 8mm Shaft 2 Units

1u - 3D Timing Belt, GT2-6mm 10M

3u - 2GT timing belt aluminum gear clamp mounting block

1u - CNC Shield V3.0 + R3 Board

1u - 10pcs 3D Printer V-slot Pulleys POM Plastic V Wheel V-slot Pulley

1u - KATSU 101750 Electric

1u - 4 pcs TB6560 stepper motor controller + interface board + 4 pcs Nema23 270 Oz-in motor + power supply

Model files



front-makita-support.stl



fork-tensioner-x-3.stl



y-axis-tensioner-support-2.stl



z-axis-rear-skate.stl



z-axis-front-skid.stl



left-y-axis-motor-support.stl



left-rear-foot.stl



left-y-axis-exterior.stl



right-y-axis-exterior.stl



left-y-axis-interior.stl



z-axis-front-inferior-skid.stl



left-front-foot.stl



right-rear-foot.stl



right-y-axis-interior.stl



tensor-body-x2.stl



right-front-foot.stl



x-axis-motor-support.stl



rear-makita-support.stl



y-axis-tensioner-support-1.stl

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