

Screws M8, on carriage n, axis n

Lg 50 : 4 X Cr.X, Y

Lg 55 : 17 X Cr.X, Y Cr.Z, Y-
Cr.Z, X- nuts

Lg 65 : 1 X Cr.Z, Y

Lg 100 : 10 X, Cr.X, Z - Cr.Z, X

Lg 110 : 2 X, Cr.Z, Y

Lg 140 : 6 X, Cr.X, Y Cr.Y, Z

Lg 160 : 1 X, Cr.Z, Y

Lg 175 : 1 X, Cr.Z, Y

Lg 200 : 2 X, Cr.Y, Z

Lg 210 : 1 X, Cr.Z, Y

Lg 230 : 2 X, Cr.Y, Z

Transmission screw M8

Lg 1000 : 3 X, axis X, X', Y

Lg 210 : 2 X, axis X, X'

Lg 100 : 2 X, axis X, X'

Lg 322 : 1 X, axis Z

Screw M10, for beam support

Length 325 : 6 X, Cr.X, Z

Ball bearings D 8 x 22 L 7: 89

Nuts M8 : around 200

Ply/medium panel size

Ply thk. 3mm : ? x ? cm

Ply or medium thk. 10mm: ? x ? cm

Ply or medium thk. 16mm: ? x ? cm

Ply or medium thk. 22mm: 5 x 5 cm

1 aluminium bar 25mm x 25mm x 400 mm

Mason rulers 100mm x 18mm : 4m

Steel angles 20mm x 20mm : 4m

Steel tube 40mm x 80mm : 6m

Plastic or aluminium U L25 x h20 : 1m

2m of chain carry-cables L18xh15, +
4 ends, at Radiospares ref. 599-623
and 599-639 for the ends.

Aspiration :

PVC tube diameter 50mm x lg. 2000 mm

4 elbows at 90° for tube diam 50mm

5 closed collars diam 50mm

1 flexible tube 40/50, length env. 200
mm, to be plugged on vacuum cleaner.

1 vacuum cleaner flexible tube lgth
1000 mm

X carriage bottom : Tubes A, B

X carriage top : Tubes C, D

Y carriage : Tubes E, F

Z carriage : Tubes G, H, I

Screw movement transmission

This will be done with ordinary screw, but the
screw length is limited to 1 meter.

Nuts will be threaded in brass or aluminium bars
20mm x 20mm.

It will be probably needed to hone your screw by
doing many empty runs.

Well grease.

Screw is run by tooth belt. belt tension to be set.

As alternate, you can replace ordinary screw by
trapezoidal screw but you will have to made boxes
to contain the nuts.

Exchange sprockets to have a reduction instead of
a multiplication. Beware, on Z axis, it will hinder
dismounting. You will also have to modify the
position of the steppers (nut axis will be modified).
If your X axis is driven by a common stepper, you
will have tu use others sprockets, to be defined.

Movement transmission BOM, Radiospares references

Axis X, X', if common stepper :

4 sprockets 15 teeth L050, RS ref : 350-8333

2 belts 420L050, 112 teeth, RS ref : 338-8145

Axis X, X', if separated steppers :

2 sprockets 15 teeth XL037, RS ref : 350-8068

2 sprockets 22 teeth XL037, RS ref : 350-8131

2 belts 70XL037, 35 teeth, RS ref : 338-7776

Axis Y, Z :

2 sprockets 15 teeth XL037, RS ref : 350-8068

2 sprockets 22 teeth XL037, RS ref : 350-8131

axis Z, 1 belt 100XL037, 50 teeth, RS ref : 338-7805

axis Y, 1 belt 70XL037, 35 teeth, RS ref : 338-7776

Cables to steppers and accessories :

if bipolar : 4 x 0.22 mm², shielded, flexible type,
diam. 4 mm

With that section, max current is around 2.5 A

Length of cables :

-Steppers, laser pointer supply: ?? m

-End switches : ?? m

For unipolar motors, you will need 6x0.22 mm²

but this cable is bigger diameter, so the
cable-carrying chain must be larger and will began
to take some room.

Ball bearings are glued in their holes. Well deoil the
peripheral area of the bearing, without deoiling the
internal of the bearing.

Add cyanoacrylate glue on the internal angle to
well block.



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