

QUICK START GUIDE

Large Gears eXtruder®



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Read this Quick Start Guide for proper extruder installation.



Each LGX® extruder is supplied with:

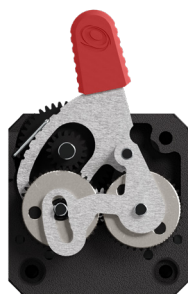
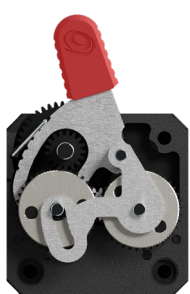
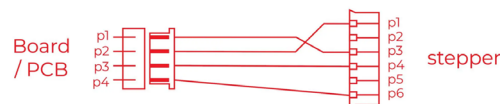
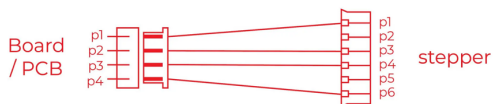
- 1x LGX® feeder
- 1x Custom Nema17 25mm pancake stepper motor
- 1x Bowden Interface Plug (with threaded metal push-fit)
- 1x Direct Drive Interface Plug (for Slice Engineering hotends)
- 1x 2mm Hex Key (recommended tool)
- 1x Product Line Information Brochure
- 1x Powered By Bondtech sticker
- 3x M3x30 mm Low Head screws
- 4x M3x18 mm Stud with 5mm Hex with M3x4 thread
- 30mm PTFE tube to use in the Direct Drive Interface Plug

CONNECTION

Do not connect a LGX® stepper motor to a printer's cable without checking the wires and pins of the connection cable. Not all printers are ready for a direct connection with the LGX®. Some use stepper drivers with no protection and this may damage them.

Before connecting a LGX® to any 3D printer check if the connector pins are wired as shown below:

After start of service, if the LGX® is turning in the wrong direction, swap the top (or bottom) pair of wires to make a correction:



Position 0

Load or unload filament without pressure from the drivegears.

Position 1

For rigid materials.

Position 2

For semi-flexible materials

Shore hardness of ~95A or when you need more grip on rigid materials.

Position 3

For flexible materials

Shore hardness between 85 and 95A.

Position 4

For soft materials

Shore hardness between 75 and 85A.



Position 5


For very soft materials

Shore hardness between 60 and 75A.

MOUNTING HOLES

For the LGX® offers twelve different mounting hole locations for different uses.

The bottom mounting holes  in the back are commonly used for mounting the LGX® to a toolhead, while the forward bottom mounting holes  are intended to interface with Slice Engineering hotends.

In addition to this the LGX® ships with four mountable studs for back mounting points at the motor. .



MACHINE CONFIGURATION

For the LGX® to work on printers where current is set with trimpots you need to adjust a couple of settings regarding the extruder system.

E steps/mm assumes a 1/16 microstepping

VREF

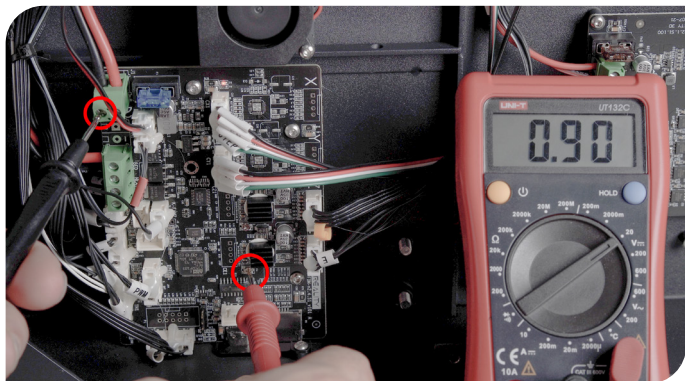
This will differ depending on your specific drivers. Aim for about 450-600 mAH RMS.

E steps/mm

400

This is set by using the *Settings.gcode* file or with the following gcode sent in pronterface:

```
M92 E400 ; set esteps
M500 ; save esteps
```



Tuning the VREF, an example

KLIPPER CONFIGURATION

Below we have listed the common Klipper parameters for the LGX®

rotation_distance

8

This is set in your [extruder] section in your cfg in Klipper

```
rotation_distance: 8
```

```
#gear_ratio: 1:1 #not used
```

```
run_current: 0.5
```

```
#hold_current: 0.5 #not used
```

SLICER CONFIGURATION

When using the LGX® for the first time, verify the retraction parameters in your slicer. For larger nozzles than 0.40 mm you may need to add length to this.

35 mm/s

0.6 mm length

If these settings still gives you stringing, we suggest you dry your filament and calibrate your extrusion multiplier since that is often the root cause of stringing when retraction has these settings.

TAKE GOOD CARE OF IT

Every 6 months, or sooner if you have a higher than 15h per week average usage, perform the following maintenance operations:

1. With a tooth brush and alcohol:
 - a. Clean the double gear and the drive gears
 - b. Clean the needle bearings
2. With a fine brush and lubricant
 - a. Lubricate the needle bearings
3. With compressed air
 - a. Blow the housing plastic parts to remove dust and dirt particles

HOW TO GET HELP

We are available to help you with any questions or issues you may have. Simply go to our website where you can access our customer support and send us your questions or follow the provided link:

https://www.bondtech.se/contact/#tab_technical-support-requests

