

# GRBL motion settings

## Recommended GRBL parameters

Motion controller needs to know about actuator capabilities.

Assume motor is connected to Y axis.

### LSA1 pitch 0.635mm

GRBL parameter	Value	Definition
\$101	10078.740158	Y steps/mm
\$111	250.000	Y Max rate, mm/min
\$121	40.000	Y Acceleration, mm/sec <sup>2</sup>
\$131	90.000	Y Max travel, mm

### LSA1 pitch 1.27mm

GRBL parameter	Value	Definition
\$101	5039.37008	Y steps/mm
\$111	500.000	Y Max rate, mm/min
\$121	50.000	Y Acceleration, mm/sec <sup>2</sup>
\$131	90.000	Y Max travel, mm

### LSA1 pitch 6.35mm

GRBL parameter	Value	Definition
\$101	1007.87402	Y steps/mm
\$111	2500.000	Y Max rate, mm/min

\$121	300.000	Y Acceleration, mm/sec <sup>2</sup>
\$131	90.000	Y Max travel, mm

## Calculating steps/mm constant

Variable	Value	Definition
p	6.35	Lead screw pitch
s	200	Stepper motor steps per revolution
m	32	Microstepping

$$\text{const} = 1/(p*s*m)$$

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Revision #5

Created 31 August 2020 13:10:06 by Saulius

Updated 3 October 2020 06:05:31 by Saulius