# Adjusting feeds and speeds during cutting

Depending upon your engraving or routing software, feeds (mm/sec or m/min) and speeds (rpm) can or cannot be entered. If the resulting cnc files do not contain feeds and speeds, the system will use the speed and feed parameters which have been predefined in the virtual pendent's "preferences" menu option, accessible by right clicking the "?" in the virtual pendent's top bar. If the engraving job contains feeds and/or speeds, they will overrule the values in this dialog window.

### Spindle speed (rotational speed in rpm)

While engraving, it is possible to continuously adapt the rotary speed of the engraving spindle, between the minimum of 6000 rpm and the maximum of 20000 rpm. To lower the speed, click the  key. Each click will lower the speed with 100 RPM. To increase the speed, click the  key. Each click will increase the speed with 100 RPM. Lowering or increasing the rotational speed of the cutter can be done on the fly, while the machine continues to engrave.

### Feed (moving speed, displayed in mm per sec)

While engraving, it is also possible to modify the feed on the fly. The feed is also limited between a minimum and a maximum speed, the minimum speed being 1% of the preprogrammed moving speed in the job, the maximum speed 150% of the preprogrammed moving speed in the job. It is not possible to increase the feed higher than 1.5 times the preprogrammed speed. The chosen percentage is applied to both the XY and the Z speeds.

To increase the feed, click the  button on your virtual keypad. To decrease the feed, click the  button on your virtual keypad.

**Example:**

If a job contains the following speeds: 50 mm/sec for XY moves and 25 mm/sec for Z moves, the following feed percentages will result in the following feeds:

| Setting | XY speed | Z speed |
|---|---|---|
| 1% | 0.5 mm/sec | 0.25 mm/sec |
| 20% | 10 mm/sec | 5 mm/sec |
| 50% | 25 mm/sec | 12.5 mm/sec |
| 100% | 50 mm/sec | 25 mm/sec |
| 150% | 75 mm/sec | 37.5 mm/sec |

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