In classic "Exact Stop" mode CNC control Toolpath planner adds Acceleration/Deceleration for each gcode command block.

For Constant Velocity (CV) mode Toolpath planner tries to make a motion without stops. Figures below demonstrate Speed profile and Toolpath for **Exact Stop** and **CV Mode**.

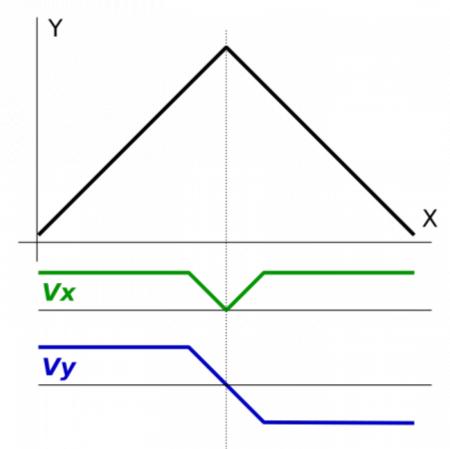


Fig.1 Exact Stop Mode Toolpath and Speed profile example.

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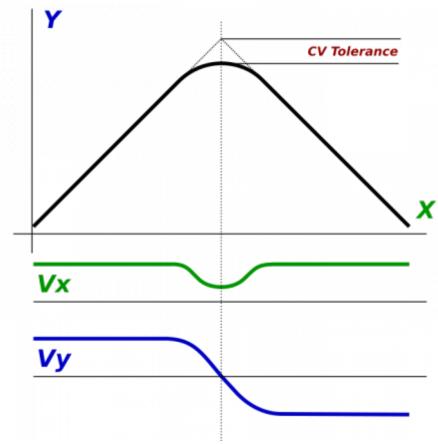


Fig.2 CV Mode Toolpath and Speed profile example.

In CV Mode Control software Toolpath planner reduces cutting speed on corners to keep Toolpath tolerance in a range given in "CV tolerance" in "Motion" configuration dialog

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S-curve Speed profile is implemented in myCNC for CV-mode. It makes a smooth motion for all axes and significantly reduce machine vibration, step loss and cutting time.

Here is a fixed time interval for S-curve transition from one command to another ("command" can be linear or arc interpolation). The time interval can be set from 5ms to 41ms.

myCNC has a few settings to tune CV mode.

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- CV tolerance, units Tolerance value
- S-curve Smooth Filtering The Time interval, transition time between two interpolation commands where S-curve smoothing performed.
- Look Ahead Break Angle. If an angle between 2 lines more than Break Angle, toolpath planner switches to Exact Stop mode - follows the toolpath exactly with deceleration, then acceleration.

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Permanent link: http://docs.pv-automation.com/mycnc/constant_velocity_mode_cv?rev=154878987

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