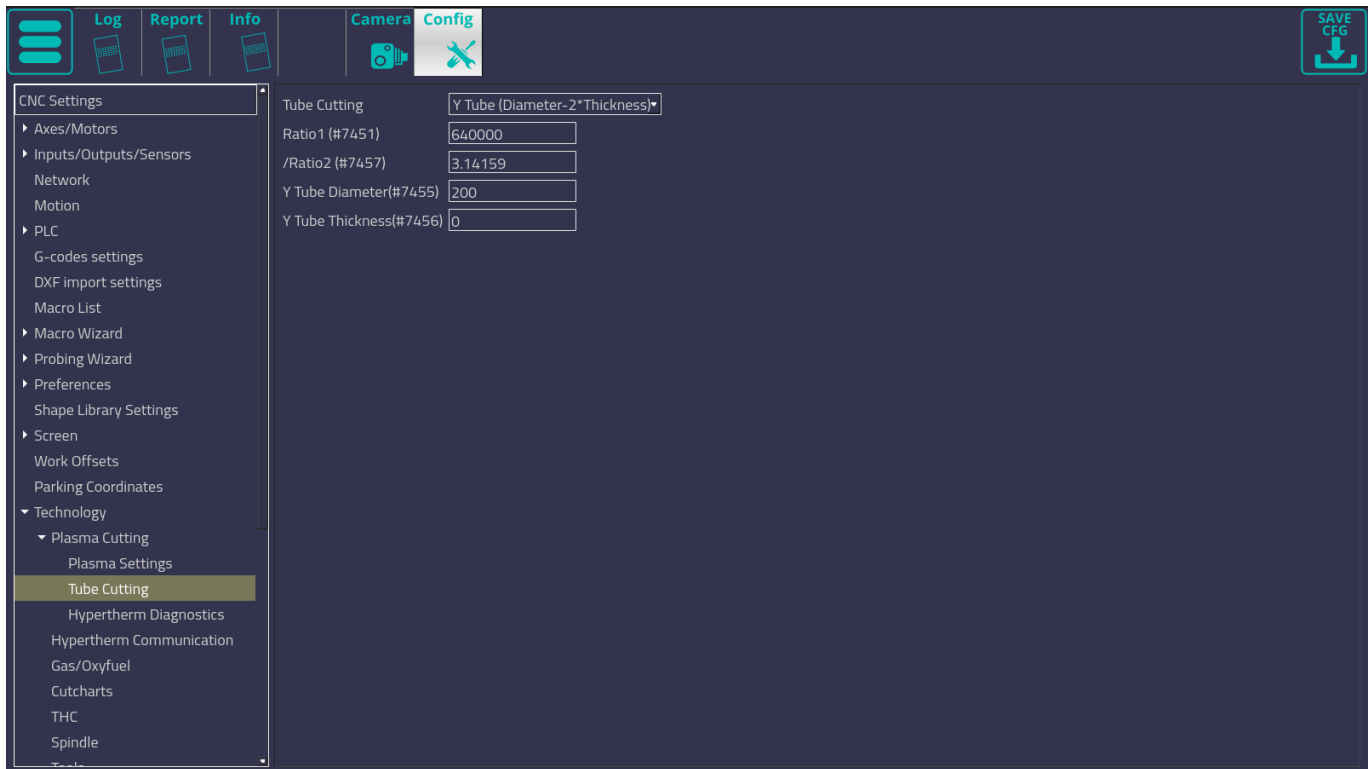# Pipe/Tube Cutting

Tube cutting is a feature on the X1366P profiles designed for S- and Y-tubes (such as the X1366PYT profile).

The following settings are available:

- **Tube Cutting mode**: turns the tube cutting modes ON and OFF. Toggling between tube and sheet cutting is available on the main screen of the X1366PYT profile (top bar). The following modes are available (in addition to Disabled, which turns tube cutting off):
    - X Tube
    - Y Tube
    - X Tube (Diameter - 2*Thickness)
    - Y Tube (Diameter - 2*Thickness)
- **Ratio1**: Number of pulses per one full revolution (numerator coefficient). Stored in global variable #7451.
- **Ratio2**: Denominator coefficient, typically equal to pi (3.14159). Stored in global variable #7457.
- **Y Tube Diameter**: in mm, stored in global variable #7455
- **Y Tube Thickness**: stored in global variable #7456

The options for switching between sheet and tube cutting are available in the top menu in the X1366PYT profile. You can use the dedicated button, or switch via global variables (global variable #7453).
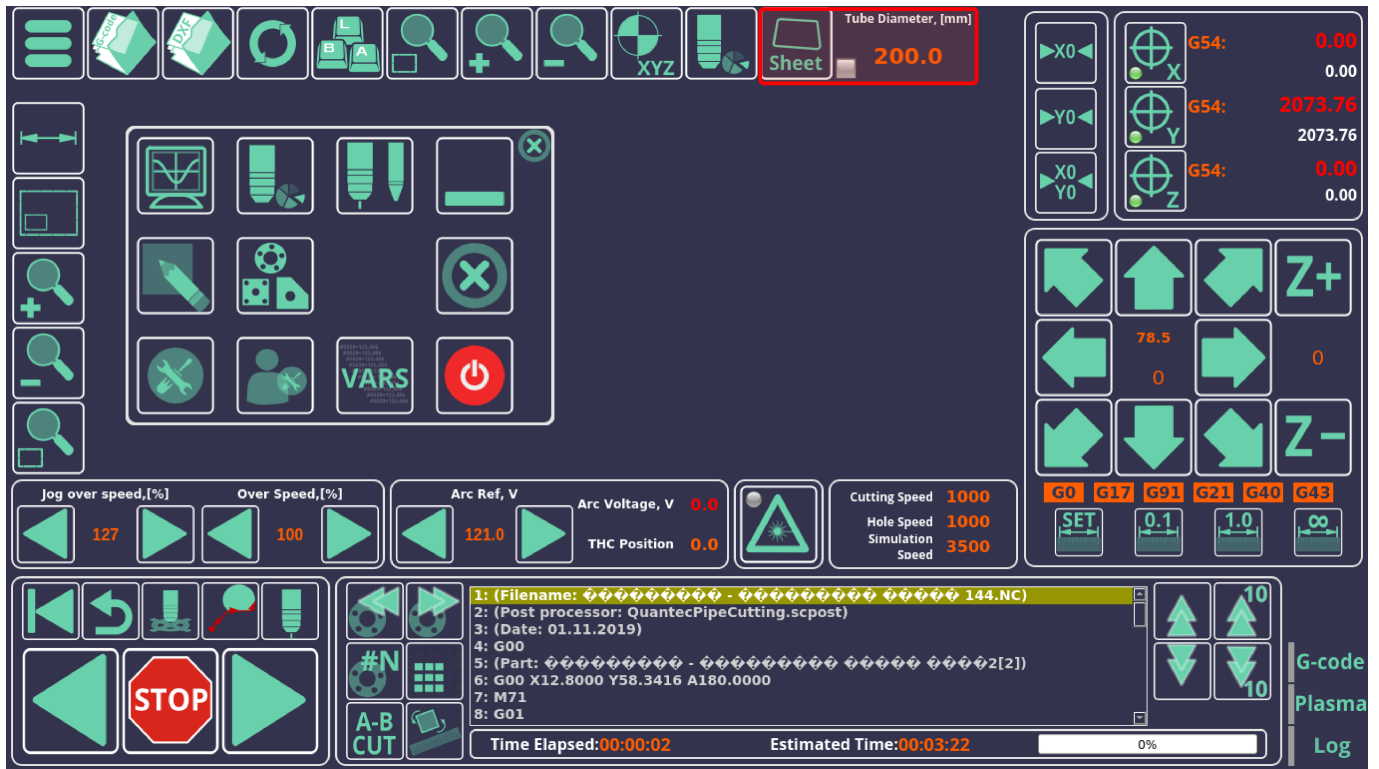
When cutting normally (for applications other then pipe cutting), the Y-axis pulse-per-unit value is taken from the default Axes/Motors field in the myCNC Settings (Settings > Config > Axes/Motors > Pulses per Unit).

In contrast, when switching to the "Y tube cutting" mode, this value is changed and calculated using your Ratio1/Ratio2 and pipe diameter.

Global variables reserved for pipe cutting

Name	Global variable number	Description
GVAR_YTUBE_RATIO	7451	Ratio1 (pulses per revolution - see above)
GVAR_YTUBE_ORIGINAL	7452	
GVAR_YTUBE_CUTTING	7453	Specified the selected mode for tube cutting. See below for more info.
GVAR_YTUBE_DIAMETER	7455	Y Tube diameter
GVAR_YTUBE_THICKNESS	7456	Y Tube thickness
GVAR_YTUBE_RATIO2	7457	Ratio2 (see above, normally equal to 3.14159)
GVAR_YTUBE_RESULT_RATIO	7459	

The #7453 global variable, which specifies the currently selected tube/pipe cutting mode, can have the following values:

- 0 - off
- 96 - X Tube
- 97 - Y Tube
- 98 - X Tube D-2*thickness
- 99 - Y Tube D-2*thickness

In cases where the #7453 variable is equal to 96-99, the pulse-per-unit value is recalculated so that

the corresponding axis is operating in degrees. If the #7453 value is equal to 0, then the original PPU value is returned.

Pipe cutting demo

A video illustrating myCNC's pipe cutting capabilities is available here:
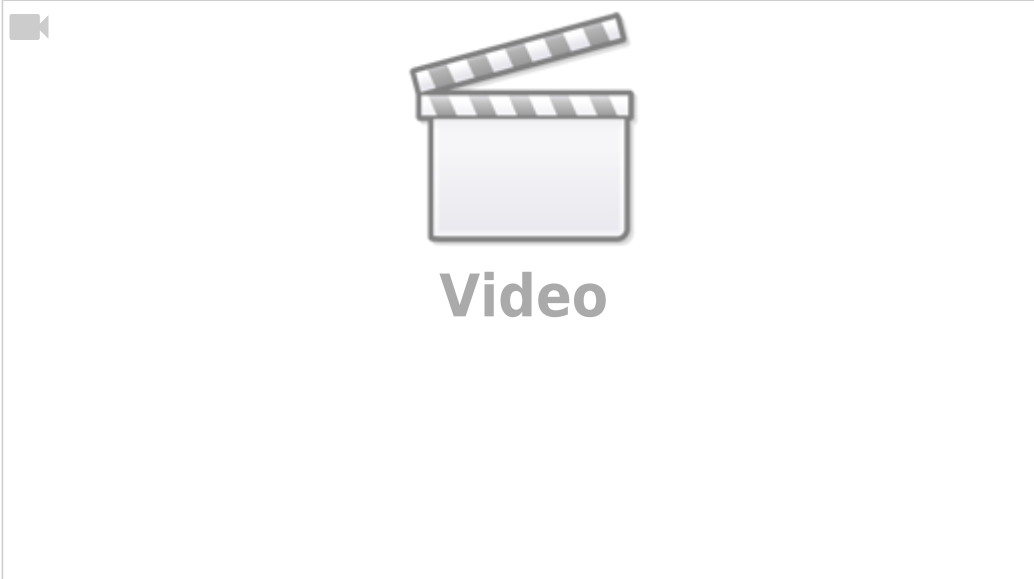
From:
<http://docs.pv-automation.com/> - **myCNC Online Documentation**

Permanent link:
<http://docs.pv-automation.com/mycnc/pipe_cutting>

Last update: **2025/03/19 12:40**