Where is pressure advance in Bambu Studio?

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Abstract. Bambu Studio calls it flow dynamics: Calibration tab > Flow Dynamics saves a K value on the printer. The 0.02 field in filament settings is for third-party printers.

Keywords: pressure-advance, slicer-settings

Table 1. The number

What you want	Where it is in Bambu Studio 2.8.2	Bambu Lab printers	Values
Calibrate automatically	Calibration tab > Flow Dynamics > Auto-Calibration	X1, A1 (firmware 01.04.00.00 or later), H2D; not P1	The printer measures and saves K
Calibrate by eye	Calibration tab > Flow Dynamics > Manual Calibration, Method: Line or Pattern	All, including P1	K 0 to 0.05 in 0.005 steps (Bowden: 0 to 0.5 in 0.05 steps); Bambu suggests 0.002 steps
Type in or edit a K	Calibration tab > Flow Dynamics > Manage Result, then Edit or New	All	K above 0 and below 2; a P1 keeps 16 results per nozzle
Choose the K a filament uses	Device tab > click the filament slot > PA Profile (shows Factor K)	All	No profile: the printer's default compensation
Calibrate before each print	Send print dialog > Flow Dynamics Calibration	X1, A1, H2D, H2S, H2C, P2S, X2D; not P1	On or Off, plus Auto where supported
Set a fixed value	Filament settings > Filament > Basic information > Enable pressure advance, then Pressure advance	None: third-party printers only	0.02 once enabled, up to 2
Print a test	Calibration menu > Pressure advance: PA Tower, PA Line or PA Pattern	None: third-party printers only	Tower and Line 0 to 0.1 in 0.002 steps; Pattern 0 to 0.08 in 0.005 steps; Bowden up to 1.0

1 Where is pressure advance in Bambu Studio?

On a Bambu Lab printer, pressure advance is called Flow Dynamics: run it from the Calibration tab to save a K value on the printer. Pick that K for each filament slot on the Device tab. On a third-party printer, tick Enable pressure advance in filament settings and set the value (default 0.02); Bambu printers hide that box.

1.1 The number

Menu labels and defaults come from the Bambu Studio 2.8.2.61 source on GitHub (the public release of August 2026), and printer support comes from Bambu Lab's Flow Dynamics Calibration wiki page.

1.2 Why is there no pressure advance setting in my filament settings?

Because a Bambu Lab printer is selected. Bambu Studio hides the Enable pressure advance box and the Pressure advance value for Bambu printers, and its G-code writer skips them even if a preset has them set. The tooltip says so: "Useless for Bambu Printer."

On a Bambu printer the K lives in the printer, in a pressure advance (PA) profile tied to one filament and one nozzle. Each job takes its K from a calibration run at the start of the job, else from the slot's PA profile, else from the printer's default compensation.

Switch to a third-party printer preset and both fields come back under Filament > Basic information. Bambu Studio then writes the value when the print starts and at every filament change: `SET_PRESSURE_ADVANCE ADVANCE=` for Klipper, `M572 D0 S` for RepRapFirmware and `M900 K` for Marlin.

1.3 How do you set pressure advance in Bambu Studio?

On a Bambu Lab printer, calibrate by eye (any model) or automatically (X1, A1, H2D), then save the K to the printer. On a third-party printer, print a test and type the result into the filament settings.

Bambu Lab printer, manual (every model, including P1):

1. Load the filament and set its type and color on the Device tab.
2. Open the Calibration tab, choose Flow Dynamics, then Manual Calibration.
3. Click Sync, then set the nozzle diameter, plate type, filament, Method: Pattern and the step. Bambu recommends a smooth plate such as Smooth PEI, and a 0.002

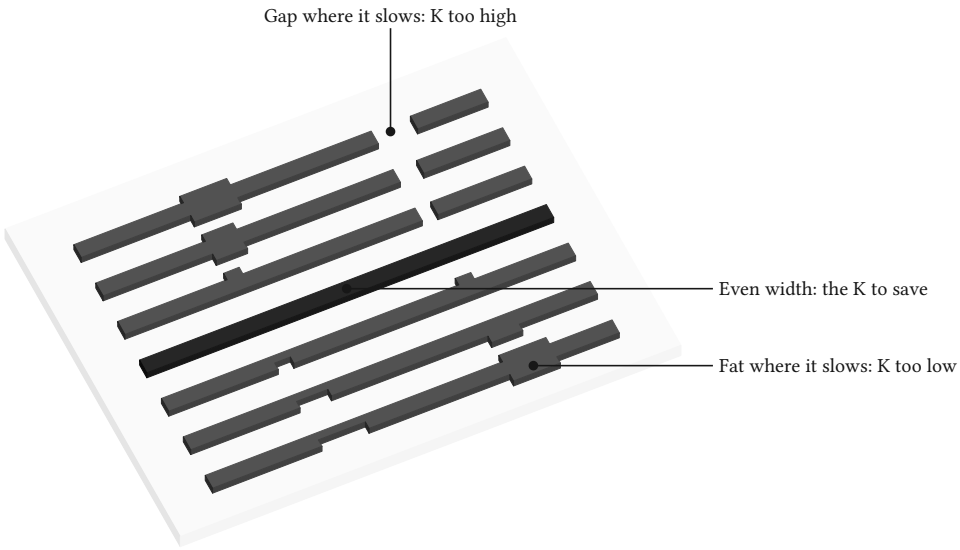


Figure 1. Each test line is printed at its own K value, and the line that keeps the most even width through its speed changes marks the K to save.

step rather than the 0.005 default for a finer choice of K values. Click Calibrate.

4. Find the sharpest corner without under-extrusion. In Bambu's example (PLA Basic, 0.4 mm nozzle), 0.018 was best: 0.006 left a round, bulging corner and 0.024 and up under-extruded it. More on reading the result: how to read a pressure advance test.
5. Click Next, enter the value as Factor K, name it and click Finish. Bambu Studio saves the result to the printer.
6. On the Device tab, click the slot and pick that PA Profile. When you send the print, set Flow Dynamics Calibration to Off, or the printer calibrates again and uses the new result for that job.

Bambu's wiki rates Pattern above Line, because straight lines hide corner defects and tend to give a lower, less reliable K. If you print lines anyway, save the K of the line whose width stays most even through its speed changes. Too low a K leaves a line fat where it slows; too high a K can thin that spot to a gap.

Bambu Lab printer, automatic (X1, A1, H2D): open Calibration > Flow Dynamics > Auto-Calibration, choose the nozzle, plate and filaments, and click Calibrate. The X1 scans printed lines with its lidar; the A1 and H2D purge at the wiper and read the extrusion force with an eddy current sensor. Click Next to see the K, then Finish to save it to the printer.

Third-party printer (Klipper, Marlin, RepRapFirmware):

1. Open the Calibration menu in the top bar (the menu bar on a Mac) and choose Pressure advance. If the menu is missing, Bambu's wiki says to turn on Developer Mode in Preferences.
2. Pick PA Tower, PA Line or PA Pattern. On a Bowden printer, set Extruder type to Bowden, which raises the range to 1.0.
3. Read the result: on the tower, K rises 0.002 per mm of height, so the sharpest corners at 15 mm mean 0.03.
4. In the filament settings, tick Enable pressure advance under Filament > Basic information, enter the value and save the preset.
5. Start a new project to leave calibration mode before slicing real parts.

1.4 Is pressure advance the same as flow dynamics?

Yes. Flow dynamics is Bambu Lab's name for pressure advance, and its K factor is the same coefficient. Bambu Studio's tooltip for the third-party field calls that number "Pressure advance(Klipper) AKA Linear advance factor(Marlin)" (see what linear advance does).

Two things differ. Bambu keeps K on the printer, not in the slicer profile, and its automatic methods read differently. Bambu says eddy current calibration on the A1 and H2D can return a K well above the manual result on purpose, to stop filament piling up at corners. The X1′s lidar method gives a lower K than the H2D's, so compare K values only from the same method on the same printer.

1.5 What does Flow Dynamics Calibration do when you send a print?

It calibrates during print preparation and uses that K for the job instead of your saved one.

- **X1 series:** calibrates only the job's first filament, with lines on the plate. Other filaments use their slot's saved K, or the default.
- **A1 series:** calibrates each filament the first time the job uses it, at the purge wiper.

- **H2D, H2S, H2C, P2S, X2D:** Auto skips calibration when that filament and nozzle were calibrated recently and the hotend has not been swapped. On calibrates before every print. Off uses your saved PA profile, or the default.
- **P1 series:** no such option; calibrate manually.

1.6 How to check it on your own print

- **See which K a slot uses.** On the Device tab, click the slot: PA Profile shows the profile and its Factor K. Calibration > Flow Dynamics > Manage Result lists every saved result for the nozzle, with Edit and Delete.
- **Expect some scatter.** Bambu's wiki puts the variation between automatic runs on the same filament at about 10%.
- **If auto calibration fails or gives an odd K,** check Bambu's list of unreliable cases: damp filament (how to tell), transparent filament on an X1, a plate the lines will not stick to (wash it), a worn or partly blocked nozzle, TPU, a third-party hotend on an A1 or H2D, or a 0.2 mm nozzle. Fix the cause, or calibrate manually with Pattern.
- **Recalibrate** for a new filament brand or model, a new or worn nozzle, or a changed max volumetric speed or nozzle temperature.
- **On a third-party printer,** open the exported G-code and search for `SET_PRESSURE_ADVANCE`, `M572` or `M900`. If none is there, the Enable pressure advance box is unticked.
- **If corners still look wrong at your K,** see why corners bulge or signs pressure advance is too high.

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