Flow™ Software

As part of the Velo3D complete solution, Flow™ is responsible for prescribing the manufacturing process for the Sapphire® printer. Flow™'s in-depth process library eliminates the need for customers to develop new parameter sets. With over two dozen standardized recipes, engineers can analyze the part and have Flow™ automatically apply the right recipe to each feature. This saves months of development and reduces the need for specialized technicians. With Velo3D's new Zero degree, SupportFree™ processing, we have expanded the range of applications that customers can slice and print on site.

Manufacture Any Design

Velo3D's unique ability to print low angles, thin walls, and large inner diameters without supports starts with Flow™. By pulling from a standardized library of recipes and automatically applying the right process parameter to each feature, Flow™ allows engineers to push the boundaries and redefine what is manufacturable.

Accelerate Print Preparation

Flow™ makes metal 3D printing more accessible by integrating intuitive tools that help users with orientation strategy, print time estimation, support generation, persurface process application, and process review.

Print True to Design with a Native CAD Workflow

By retaining underlying CAD data, Flow™ allows for a more intuitive way of interacting with the geometry. Native CAD workflow eliminates the need for translation to labor-intensive STL mesh file formats. Flow™ also uses the design's CAD information and interprets it upon import, allowing you to effectively make cost-impactful decisions as you lay out a build.

Deliver Precise & Predictable Print Outcomes

Flow™ offers a wide selection of print capabilities targeting specific geometries and a wide selection of materials. Flow™'s Rough Time Estimation feature allows users to quickly estimate print time prior to slicing the part, which is critical when responding to customer requests.

The Velo3D Manufacturing Process

Prescribed by Flow™, Executed by Sapphire®, Validated by Assure™.
Flow™ UI

The simple, intuitive Flow™ UI provides unprecedented ease of use. By retaining underlying CAD data, Flow™ allows for a more intuitive way of interacting with the geometry. With the inclusion of Rough Time Estimation, Time Overlay, more Process Overrides, and additional support types, Flow™ gets even more powerful and easier to use.

Rough Time Estimation
The Print Time Estimation tool gives you the ability to obtain a print time estimation upon import, in a responsive and rich visualization.

Time Overlay “Heat Map”
Use while editing parts to quickly try different options like positioning and duplication, to immediately evaluate the effects on print time.

Smart Selection
Smart Selection uses CAD logic to reduce laborious selection processes down to single clicks. Selection refinement through height & angle filters allows targeted selection.

Per-surface Process Overrides
Per-surface process overrides give engineers greater control over outcomes. Velo3D processes are optimized for speed, feature geometries, and material properties.

Support Generation
Regions (saved selection sets) make the application of supports and processes easy and organized. Flow features beam, wall, tree, and extruded support types, with perforation options.

Process Review
Lets you review the applied processes, laser assignment, and print order in 3D or 2D slices, prior to printing, assuring that the printer does what you specified.