PRODUCT BRIEF

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 enables engineers to push the boundaries and redefine what is manufacturable.

Accelerate Print Preparation with Smart Tools
Flow makes metal 3D printing more accessible by integrating smart tools that help users with orientation strategy, print time estimation, support generation, per-surface 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 Smart Tools, 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. VELO® 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.