

Intelligent Waterjet Control System

BENEFITS

- Easy to learn, easy to use — no specialized training or skills required
- Extremely powerful with an integrated database of cutting parameters for virtually any material and thickness
- Allows you to easily control and monitor all machine and pump functions simultaneously
- Controls both conventional waterjet cutting and Flow's state-of-the-art Dynamic Waterjet® cutting system
- Standard drawing formats can be seamlessly imported or created with the built-in CAD functionality — also accepts scanned drawings
- Fully optimizes cutting speeds, cutting path and machining parameters for all materials automatically



Breakthrough Software Puts You in to Production Fast

FlowMaster, Flow's intelligent waterjet control system, puts you into production quickly, regardless of the complexity of the part. Windows®-based FlowMaster is smarter and easier-to-use than any machine controller you've ever seen. FlowMaster sets the correct acceleration, speed, and piercing parameters with its advanced capabilities and integral modeling. All machine and pump functions are controlled and displayed by FlowMaster allowing operators to easily control the cutting system and monitor the progress of a cut.

Process Settings for All Materials are Preprogrammed

While exceptionally easy to operate, FlowMaster is also extremely powerful. It includes an integrated database of cutting parameters for virtually any material and thickness. You can create or import standard drawing formats (dxf, iges, etc.) with the built-in CAD functionality. FlowMaster fully optimizes cutting speeds, cutting path, and machining parameters for all materials automatically, saving you hours of programming and set-up time on every job.

No Knowledge of CNC or Waterjet Cutting is Required

FlowMaster eliminates the need for extensive training because no CNC programming or complex computer language is used. You simply enter basic cutting parameters, such as material type, thickness, and desired edge finish based on cut speed — and FlowMaster does the rest.

Easily Control Dynamic Waterjet

FlowMaster makes even Flow's state-of-the-art Dynamic Waterjet extremely simple to operate. All mathematical calculations take place behind the scenes, triggering the appropriate motion commands to all five axes at lightning speed. FlowMaster dynamically controls the position of the cutting head. It knows the amount of tilt and rotation required at numerous incremental points along a cutting path. For example, at high speeds outside corners require increased tilt to prevent coning. FlowMaster knows the optimal cutting speed to keep parts within tolerance and taper-free. The faster the cutting speed, the more tilt that is required. In most cases the ability to tilt the cutting head allows for a faster cutting speed. Because of this, Dynamic Waterjet produces superior part features at higher speeds than those resulting from conventional waterjet cutting.



FlowPATH is Flow's waterjet specific "lite" CAD program and tool pathing software.

Features & Benefits

- Part tabbing function that allows a user to choose the location, gap and length of entry and exit points for a part tab
- Drawing smoothing function to reduce the number of entities and generally smooth geometry
- Basic shape library, which provides a number of predetermined shapes (i.e. washer) with parameters that can be adjusted by the user (i.e. adjust the diameter of 2 concentric circles that make up the washer)
- Enhanced editing and part programming features to increase productivity such as: select all traverse lines, select continuous contours, "rubber-banding" to select an entity and drag it into a new location, and multiple step undo
- Advanced lead-in/lead-out functions that allow you to drag the leads on a contour to an optimal location for enhanced part quality
- Avoid previously cut parts — you can set the tool path in order to avoid traversing over previously cut areas and minimize the danger of cutting head collision and mixing tube breakage
- A print drawing file function to assist with record keeping and quoting



FlowCUT is the most advanced, state-of-the-art machine tool control system for abrasive waterjet in the industry. It integrates the operation of the ultrahigh-pressure pump, the cutting head, and the XY cutting table.

Features & Benefits

- Ability to cut parts that have features programmed in the Z-direction and in material with variable thickness (if machine has a programmable Z-Axis)
- Exclusive material cutting models assure high quality finished parts
- Speed capability for high speed water only cutting or thin material abrasive waterjet cutting in excess of 150 ipm (this feature utilizes the optional high speed PC controller card)
- Plate alignment function to compensate for plate rotation, angle or skew on cutting surface
- Kerf compensation with the ability to edit the offset path to perfect a complex part
- Automatically pierce all holes first at low pressure, then cut at high pressure for use during special piercing operations of brittle materials
- Integral control of high-pressure pump, water, and abrasive controls (on multiple head machine, all are controlled at same time)
- Further evolved and advanced cutting models for increased part quality and cutting productivity including speed control for lead-ins and lead-outs
- Supports tabbed parts from FlowPATH
- Supports common line, multiple head nesting, and cut part avoidance from other FlowMaster modules



FlowNEST is a powerful geometric nesting module of FlowMaster that allows for small parts to be placed within larger parts. The program allows you to nest parts on full sheets or partially cut sheets.

Features & Benefits

FlowNEST has been designed by our programming staff solely for waterjet applications, so it is remarkably easy to use. After ordering the parts in FlowPATH, use FlowNEST to maximize your material and, consequently, your profits.

Features & Benefits

- Common line cutting — aligns parts side by side to create a common cutting line between two parts in order to save cutting time and improve productivity
 Note: In systems equipped with Dynamic Waterjet, this feature is not available when Dynamic Waterjet is enabled
- Optimized cut path — improved method of selecting the order in which parts are cut reducing extraneous, long rapid moves and cutting cycle time
- Supports part tabbing function from FlowPATH
- Support of multiple cutting heads, determining nest pattern based on head-to-head spacing
- Works in conjunction with FlowCUT and only on rectangular sheets of raw material
- Avoid previously cut parts — you can set the tool path in order to avoid traversing over previously cut areas and minimize the danger of cutting head collision and mixing tube breakage
- User defined crop line for efficient remnant processing and storage
- Print drawing file function to assist with record keeping and quoting

INNOVATION | EXPERTISE | COMMITMENT

Get It All with Flow

For over three decades, Flow has set the standard for excellence in waterjet technology. We are the only waterjet company in the world that offers total solutions and support from a single source, both before and after your waterjet system is installed. We learn your business requirements. We help you select and implement the right solution. We train your staff and we are there for you for the entire lifecycle of our products.

When you partner with Flow, you get more than a product:

Our **INNOVATION** ensures that you will always have the latest and highest quality technology.

Our **EXPERTISE** ensures that you will always have the right technology for your individual business needs.

Our **COMMITMENT** to customer service ensures that you will always receive the support you need to stay productive.

For your complimentary needs analysis or a product demonstration, please call one of our waterjet experts at **1-800-446-3569**.

We look forward to partnering with you in your success.

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