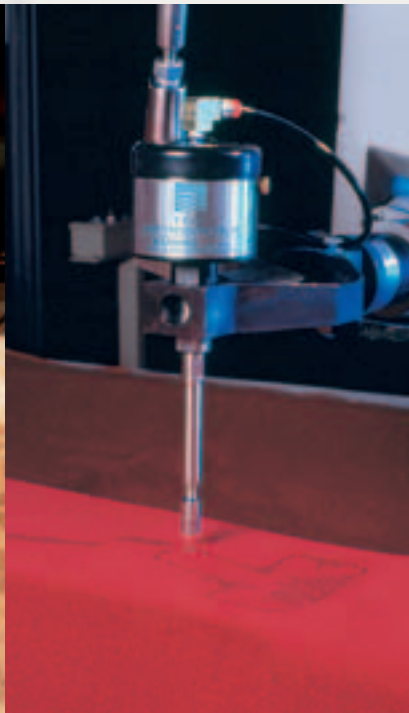




Flow

The Machine Tool Of The Future

Waterjet  
Shapecutting Systems  
that are the  
world's most versatile  
machine tools.

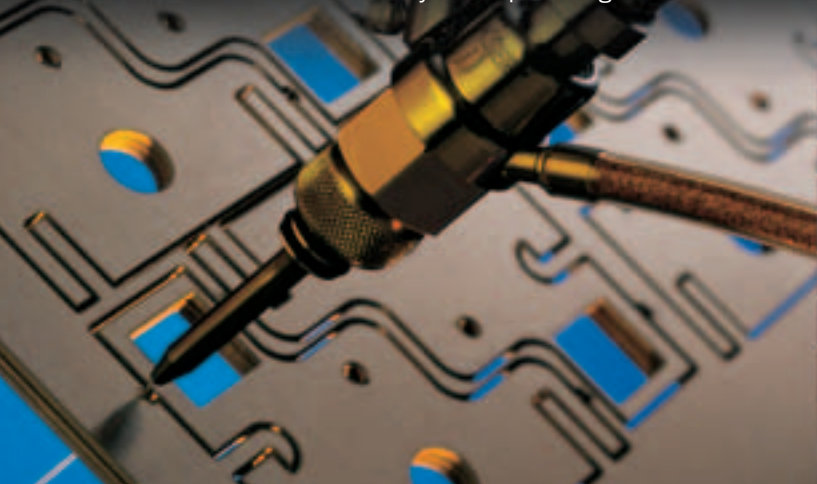




They cut, they shape, they drill,  
they finish *and they fly.*

### **Different Jobs Don't Require Different Tooling**

Abrasivejet cutting is accomplished by software-controlled, robotic motion systems—not hard tooling—so there simply are no costly, time-consuming tool changes required to accommodate an infinite variety of shapecutting.



### **Setup And Fixturing Is Complete In Just Minutes**

Because side forces are virtually non-existent when cutting with a FLOW abrasivejet, the time required for setup and fixturing is minimal. So, you can move quickly from job to job—cut 1/2 inch aluminum in the morning, 2 inch glass in the afternoon, and 6 inch stainless steel in the evening.



### **Stack Raw Stock And Multiply Productivity**

The cool-cutting process of FLOW abrasivejet systems enables you to increase throughput by stacking raw material and cutting multiple parts in a single pass. Running multiple cutting heads simultaneously further increases productivity.



### **No Other Tool Cuts A Greater Variety Of Materials**

From glass to stones to composites and metals, nothing cuts a greater variety of materials than an abrasivejet. Their versatility is unmatched.



## FLOW Waterjet Systems Are The "Machine Tool Of Choice" Around The World

FLOW systems cut virtually any shape in a single step with edge quality that usually requires no secondary finishing. They're the most productive solution for cutting a wide range of materials from 1/16 inch to over 8 inches thick. Whether you machine high volume, short run, or prototype parts, a FLOW system is the choice that will keep you competitive. Here's why.

## Edge Quality Eliminates Costly Secondary Finishing

From steel to composites, cut net and near-net parts. Abrasive-jets cut with erosion, rather than shearing or heat, so they produce exceptional edge quality without inducing heat-affected zones or mechanical stresses. Raw materials maintain their structural integrity, and deburring and other secondary finishing are usually not required.

## You'll Enjoy Raw Material Savings

Because abrasivejets cut with a narrow kerf and produce no heat, you can tightly nest parts to get the most from raw material.

## The Integrated Flying Bridge System Solution

The 2040 and 4400 Integrated Flying Bridge waterjets offer all the advantages of abrasivejet cutting at an affordable price. The integrated design saves floor space and provides advanced features not usually associated with machines at this price point. These reliable X-Y machine tools will astound you with their ability to do precision cutting of complex shapes. Just connect to standard air, water, and electrical services and they are ready for low cost, high-margin prototype and production machining. Automated abrasive/kerf removal and 50 micron final filter system are standard features.

### SPECIFICATIONS:

Standard Cutting Tables	39.3 x 19.6 inches and 4 x 4 feet
Accuracy	± 0.005 inches, 39.3 x 19.6 in. table ± 0.003 inches, 4 x 4 ft. table
Repeatability	± 0.002 inches
Traverse Speed	0 to 300 ipm, 39.3 x 19.6 in. table 0 to 500 ipm, 4 x 4 ft. table
Contour Speed	0 to 300 ipm
Control System	FlowMaster
Z-axis adjustability	4 inches or 8 inches
Cutting pressure	40,000 psi, 55,000 psi or 60,000 psi
Pump Size	25 or 30 horsepower, 39.3 x 19.6 in. table 25, 30 or 50 horsepower, 4 x 4 ft. table



The 4800 and 6012 Integrated Flying Bridge waterjets are also available with non-integrated pumps and can be equipped with automated material handling and dual cutting heads to significantly increase production throughput.

### SPECIFICATIONS:

Standard cutting tables	4 x 8 feet and 6 x 12 feet
Accuracy	± 0.003 inches
Repeatability	± 0.002 inches
Traverse speed	0 to 500 ipm
Contour speed	0 to 300 ipm, single head 0 to 150 ipm, dual head
Control system	FlowMaster
Z-axis adjustability	8 inches
Cutting pressure	60,000 psi
Integrated pumps	50 or 100 horsepower



FlowMaster® puts you into production quickly—regardless of the complexity of the part.

### Go From Drawing To Cutting In 10 Minutes

FlowMaster Windows®-based, PC software is smarter and easier-to-use than any machine controller you've ever seen. Simply draw the part on-screen; or download a DXF (CAD) or IGES file; or scan a drawing directly into FlowMaster.

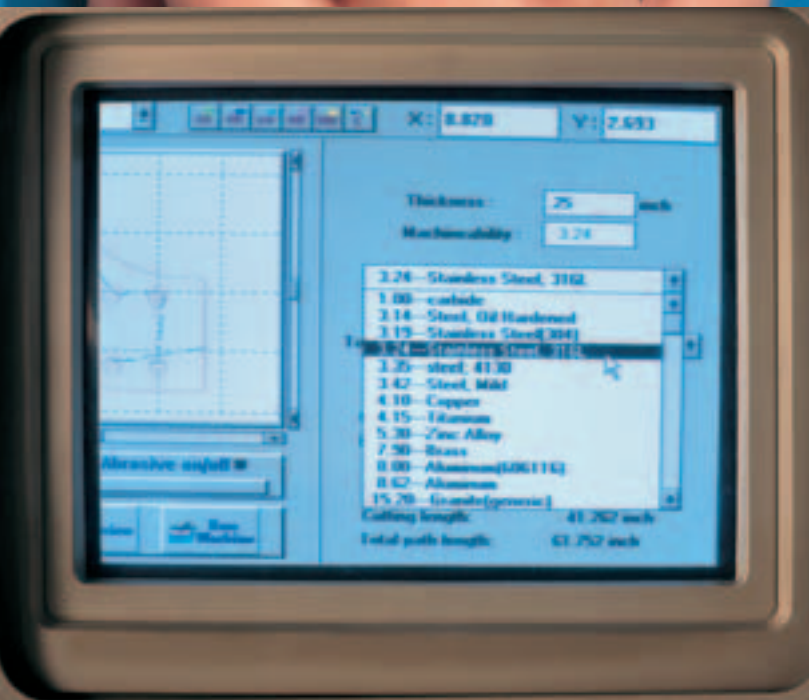
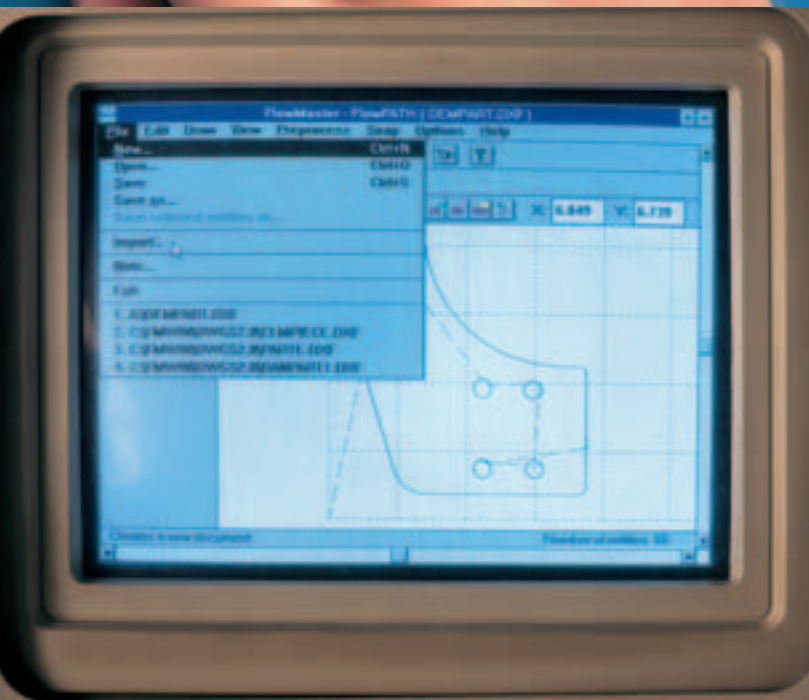
Next, input the material type, its thickness, and the edge quality you want by clicking on color coded icons.

1

Draw, import or scan in your part.

2

Specify material type, thickness and edge finish.



## Process Settings For All Materials Are Preprogrammed

FlowMaster fully optimizes cutting speeds, cutting path and machining parameters for all materials automatically. You don't have to do a thing. The result of years of investment in R&D, this breakthrough software program is a FLOW exclusive. FlowMaster algorithms and cutting models are simply the most advanced in the world, saving hours of setup time on every job.

## No Knowledge Of CNC Or Abrasivejet Cutting Is Required

FlowMaster eliminates the need for extensive training because no CNC programming or complex computer language is used. Every machinist will cut parts with increased productivity. Even your less-skilled workers will be able to machine quality parts quickly and easily.

Then point and click on "Start" to begin cutting. FlowMaster does all the rest. It even "costs out" the part so job estimates will be right on the money. And, you can run it on the shop floor or remotely from your office.

3

Point n-click on "Start" to cut.



## Dynamic Waterjet® Technology

Dynamic Waterjet with Active Tolerance Control™ technology produces more accurate parts at significantly higher cutting speeds than parts cut with conventional waterjet. This patent pending system utilizes a newly-developed advanced motion system that incorporates mathematical cutting models. These models are seamlessly integrated into FlowMaster®, FLOW's intelligent PC-based waterjet control system, so that operating Dynamic Waterjet is extremely simple. All that is required is a few mouse clicks to enter the type of material being cut, its thickness, and the desired cut quality. The software does the rest. FlowMaster dynamically controls the position of the cutting head so that parts are cut to high precision without taper. In addition the software "thinks ahead" as parts are cut, calculating the optimal cut path to produce perfect part geometry, even in very thick materials. Dynamic Waterjet optimizes waterjet cutting by operating at the highest possible speeds, with the best part precision, to achieve the lowest cost per part.

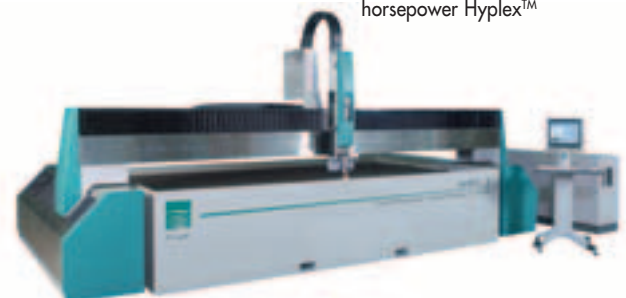


## The New WMC2 System Solution

Today, flexibility in manufacturing is key to maintaining a competitive edge and tapping into new markets. To keep you competitive, FLOW has designed the WMC2. The WMC2 is the next generation waterjet-machining center with a focus on increasing your productivity and profitability — all while being the most reliable and advanced waterjet available. Through its flexible, modular design, it can be equipped to meet a myriad of individual needs — now or in the future. As a result the WMC2 can be ideal for high-production, high-speed cutting, or the low production runs and high job variations common to just-in-time manufacturing or contract production environments. The system can be configured with options specifically tailored to your application.

### SPECIFICATIONS:

Standard cutting tables	10 x 5 feet, 13 x 6.5 feet, and 13 x 13 feet
Accuracy	± 0.003 inches
Repeatability	± 0.001 inches
Traverse speed	0 to 1375 ipm
Contour speed	0 to 1000 ipm
Control system	FlowMaster or Siemens CNC
Z-axis adjustability	9.8 inches
Integrated pumps	50 or 100 horsepower intensifier, 30 or 50 horsepower Hyplex™



# Only a FLOW system delivers consistent cutting at higher speeds without operator adjustments.

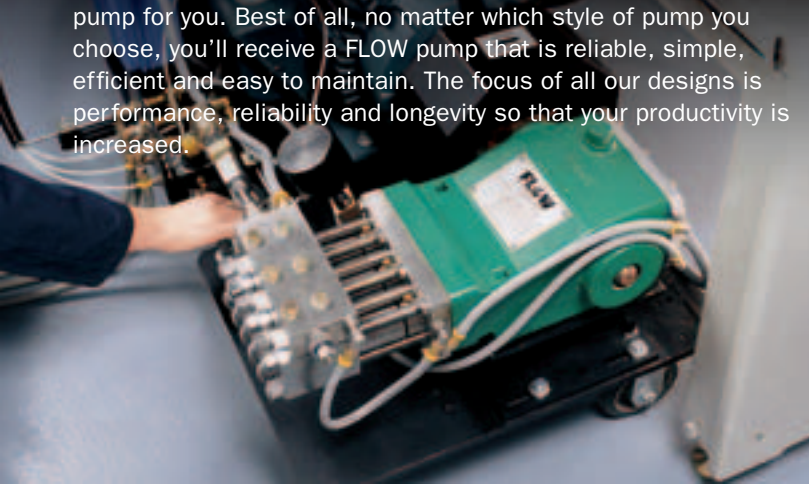
## Performance Monitor Keeps Operator "In Touch" Without Being "Hands-On"

A performance monitor removes any guesswork from the abrasivejet cutting process. It shows at a glance whether you're cutting at optimum levels. This allows your operator to do other things while PASER is machining material.



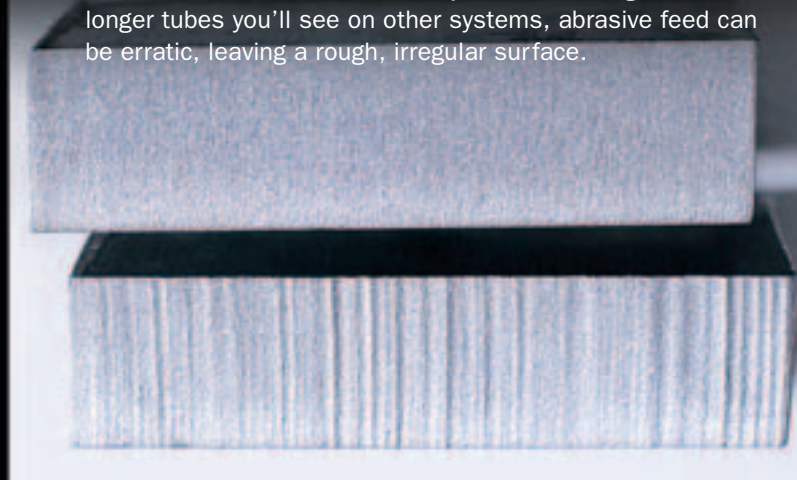
## Pump Choices From FLOW

Only FLOW manufactures both HyPlex™ and Intensifier pumps. As a result, we can offer you the pump solution that is best suited for your application. Whether you run 24-hour, 7 day a week production or prototype jobs a few hours a day, we have a pump for you. Best of all, no matter which style of pump you choose, you'll receive a FLOW pump that is reliable, simple, efficient and easy to maintain. The focus of all our designs is performance, reliability and longevity so that your productivity is increased.



## PASER® Is The Industry's Smoothest Cutting Tool

The PASER abrasive metering valve is positioned close to the cutting head which reduces the distance the abrasive travels. This ensures consistently smooth cutting. With the longer tubes you'll see on other systems, abrasive feed can be erratic, leaving a rough, irregular surface.



## Simplicity Plus Performance

FLOW's new PASER ECL Plus cutting head has been designed so all of its components fit together easily and precisely. Its design ensures a concentric, powerful abrasive stream that reduces component wear and increases cutting power, all while being the most efficient cutting head on the market. When paired with patented DuraFlow™ diamond orifices and ECL Premium™ mixing tubes productivity is maximized with the longest average life of any cutting components in the industry.



## FLOW Pumps Are Safer

FLOW manufacturing and quality control processes keep our intensifiers safe. FLOW intensifier components have never failed from fatigue. Our "fail safe" design produced the first attenuators on the market that pass the latest intensifier safety codes.



## FLOW Pumps Are The Most Reliable On The Market

FLOW experience, expertise and our use of FEA (finite element analysis) to test components have set the industry standard for reliability. Want proof? Ask our customers who run 24 hours per day (like paper mills and diaper manufacturers). They insist on FLOW pumps.



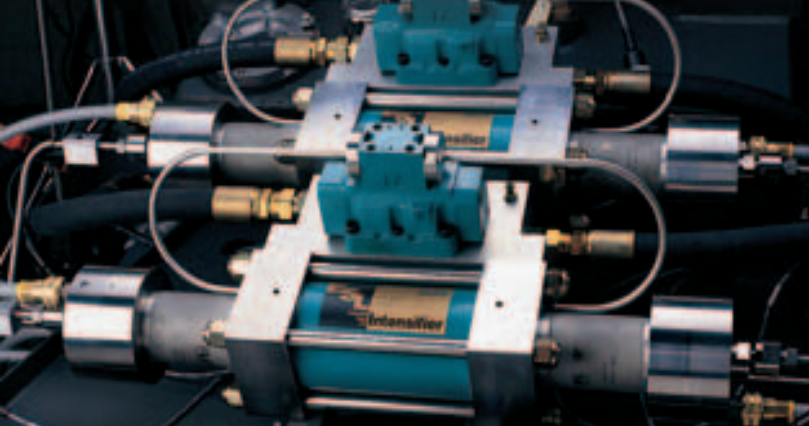
## FLOW Pumps Operate At Higher Pressures

FLOW pumps are rated at 60,000 psi and our systems *run* at that pressure. No backing off, no hedging. It's another big reason why FLOW equipment out-produces all others.



## FLOW Pumps Last Longer

Our innovative ESL (Extended Seal Life) intensifier features ceramic plungers, which reduce friction and wear and lengthen seal life. FLOW attenuators have nearly twice the volume of others. You get smoother, more consistent cutting; service life is greatly extended; and you increase your return on investment.

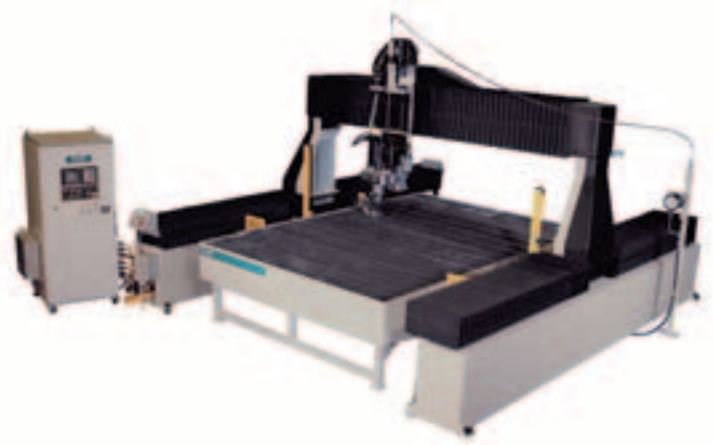


## The AF-6080 Three-Dimensional System Solution

Abrasive waterjet systems excel at three-dimensional cutting, and FLOW manufactures a complete line of turnkey systems for cutting complex shapes. The AF-6080 cuts with precision accuracy, at speeds up to 400 inches per minute.

### SPECIFICATIONS:

Standard cutting tables	Base: 6 ft, 12 ft, 16 ft, 20 ft Bridge: 8 ft; custom sizes also available
Accuracy	± 0.005 inches
Repeatability	± 0.003 inches
Traverse speed	0 to 900 ipm, X- & Y-axis 0 to 450 ipm, Z-axis
Contour speed	0 to 400 ipm
Control system	Allen Bradley Series 9 or Siemens 840D CNC controllers
Z-axis adjustability	24 inches



## Custom System Solutions

FLOW will design and manufacture high productivity ultrahigh-pressure (UHP) abrasivejet system solutions for your most demanding applications. We develop 5- to 11-axis UHP abrasivejet cutting systems as well as other multi-process applications such as inspection, measurement, touch probe/verification, precision routing, and drilling in sizes up to 20 ft x 50 ft x 5 ft.



Customization such as flexible tooling and universal holding fixtures add flexibility and save setup time.



## Knowledgeable Abrasive Waterjet Users Know High-Quality Abrasive Is Critical To The Success Of Abrasivejet Machining

PASER® Plus Garnet delivers a superior performance at a great price that will reduce your operating costs. The only abrasive certified for use with abrasive waterjet, PASER Plus Garnet is the ideal size, shape and hardness, ensuring you of peak productivity, excellent part quality, and long component life.



## FLOW Trains Your Operators To Be Successful

We will visit your site or invite you to our state-of-the-art regional training facilities. Customers say that "FLOW technical manuals are the clearest and most useful they've ever used." And, each FLOW system has a maintenance and service video to supplement hands-on and written training.



## FLOW International Corporation Understands The Abrasivejet Cutting Process Better Than Anyone

Why? Because we invented it in 1982. Since then, FLOW has installed more abrasivejet systems around the world than all other manufacturers combined. FLOW's Total Solutions Design Team—more than 100 strong—has expertise in virtually every abrasivejet application. Our regional training and applications laboratories in Seattle, Detroit, Louisville and Toronto test customer applications every day to assure the highest possible quality and productivity.

## The FLOW Service Network Extends Around The World

FLOW is the only waterjet company in the world that offers total solutions from a single source, both before and after your system is installed. FLOW monitors individual customer usage of spare parts to ensure maximum performance and profitability for our customers. A call to our 24-hour hotline initiates a rapid response to any maintenance or cutting emergency you may have.

To learn more about "the machine tool of the future," call us for a demonstration.

### Flow International Corporation

is the world's leading developer and manufacturer of ultrahigh-pressure (UHP) waterjet technology for cutting, cleaning and food safety applications. FLOW provides total system solutions for industries including automotive, aerospace, paper, surface preparation and food production.

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### Regional Sales Representatives

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International Distributors and Agents are located worldwide.

