

Vermont Shop Owner Achieves Home Business Dream with OMAX Systems



Metal Sculpture



Brass Lanterns

What happens if you are primarily a sheet metal shop running out of niche markets to serve? Invest in waterjet cutting technology says Mainly Metals owner, David Durgin. After years of specializing in stainless steel work for the chimney industry, Mr. Durgin saw a drop in consumer interest for chimney maintenance components. He didn't want to depend on revenue from a volatile industry, so he decided to shift his home business towards a new direction.

"I had to find a machine that could be a standalone business," he said. "It had to complement what I'm already doing in my shop, or maybe even replace my existing equipment."

He considered lasers, CNC routers, and other machining centers. But after consulting with some of his business partners, he learned about waterjet technology. He spoke to OMAX® machine owners and became intrigued by the company's strive for continuous product improvement in abrasive waterjet equipment and controller software.

"A waterjet seemed to offer the most versatile machine cutting with the most variety of materials," Mr. Durgin said. "It is very energy efficient and has low environmental impact; it's a machine that doesn't generate smoke or toxic fumes."

Now with two OMAX 55100 JetMachining® Centers, Mainly Metals can efficiently respond to a myriad of cutting requests from random industries Mr. Durgin had not considered working with before.

- Farming: Cutting steel replacement wheel centers for tractor tires
- Excavators: Cutting modified metal components so their equipment can accomplish different excavating tasks
- OEMs: Cutting parts associated with government or federal contracts
- Vermont's City Hall: Cutting interconnecting mosaic granite pieces for decorative public road art

- Building/Bridge Construction: Cutting stainless steel hubs for a geodesic dome
- Ski Resorts: Trimming ideally flat, stainless steel diamond plate strips that were 8 feet long x ½ inch wide for installing as traction on pedestrian steps
- Burning Man "Time Cycle" project: Cutting customized brackets and gears for a self-propelled Ferris wheel financed by individual contributors, such as Ben Cohen and Jerry Greenfield (founders of Ben & Jerry's)

Mr. Durgin also stated with amusement one of the reasons he bought his initial waterjet was that the equipment conveniently fit in the basement of his house. One of the advantages of managing a home waterjet cutting business means you can go upstairs, have dinner, and easily monitor the low maintenance equipment every so often, said Mr. Durgin. Even during 14-hour cuts, he confidently runs his two OMAX 55100 machines mostly unattended while he takes care of other business.

"I have a farming background and I'm used to driving tractors," he said. "If you hear a different kind of sound, you know something is happening to the equipment. A waterjet machine makes a very distinct sound when it runs out of garnet or when the nozzle is not cutting through the material."

Waterjet equipment familiarity is an element to his success with Mainly Metals, as well as his business partnerships





with local machine shops and manufacturers. Since cutting requests come from about 260 customers, his OMAX machines can run two and a half shifts per day depending on project workload. Since there are no tooling requirements when operating a waterjet, there is minimal project setup time. The factored outcome: Durgin can pass on the savings to his clients who prefer his competitive pricing for quick job turnarounds.

Before he acquired the OMAX waterjets, Mr. Durgin conducted most of his metal cutting with a hand-held plasma cutter or hand shears. He admitted the process was time-consuming since it involved extra part cleanup, and limited him to what material he could cut for customers. The cold cutting process of the waterjet became an excellent application for making equipment parts in the soap manufacturing industry.

"We cut a fair amount of steel wire metal cloth for refining screens for soap manufacturers," he said. "It's kind of a maintenance item we cut for them."

In the process of making bars of soap, manufacturers process soap base pellets with coloring agents and perfumes through a plodder to acquire the desired soap consistency. The mixed ingredients are pushed through a tube and then through a refining screen. Once the right consistency is formed, individual soap bars can then be cut into shape.

The constant pressurized force of soap through these plidders introduces stress to the steel refining screens; as a result the screens eventually break. Mainly Metals stack cut the stainless steel cloth on the OMAX to produce the screens with better dimensional accuracy and less clean-up. The waterjet cutting process proved to be a better alternative to their previous method of cutting and preparing the material with shears, spot welding, and plasma trimming. The customer receives replacement

screens much quicker than before thanks to the OMAX equipment, Mr. Durgin said.

Some of his clients who even own waterjet equipment would rather contract Mr. Durgin's services for specialized OMAX waterjet cutting.

"These customers are only comfortable cutting a particular type of material on their waterjet, like stainless, aluminum, and mild steel," Mr. Durgin said.

Also, if his clients do not have time to take on a custom waterjet cutting project, he is usually offered the job. If his clients are not familiar with advanced waterjet cutting techniques, his customers usually pass on the work to him too.

Another Mainly Metals customer who owns a waterjet with an intensifier pump called upon Mr. Durgin because they needed to conduct low-pressure piercing on insulation material.

"Since they run an intensifier pump, they don't have the capability to do low-pressure piercing," he said. "When they try to cut the material on their waterjet, the insulation just explodes. But I can cut it without any issues since I have an OMAX direct drive pump."



His OMAX JetMachining Centers allow him to accept newer cutting challenges, Mr. Durgin said. He always insists to cut sample parts for those who are not familiar with waterjet technology. Gradually new customers recognize how abrasive waterjet technology is a real cutting solution for their projects. The response has been enormous and Mainly Metals' business took off to a new level.

"We can offer a lot more services for our customers who want a complete package," he said.

MAINLY METALS

LOCATION: Bristol, VT

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SPECIALIZES IN: Full service custom fabrication shop with extensive experience in prototype development and production runs

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