

As Seen In

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Bob Gigione

Mark Grindel
of Waterjets
Unlimited

Sliced to order

Waterjet technology takes the saw
out of cutting glass and metal

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By AMBROSE CLANCY

The front of the business – a pleasant reception area opening into a modern, immaculate office – is not what it seems.

The only clue to what Mark Grindel has been doing for a living the past seven years in a Ronkonkoma office park is what looks to be works of art on his desk. A sand-colored marble slate cut into designs befitting a Renaissance chapel sits next to a thin piece of intricately detailed glass.

Next door, a room akin to an artist's studio with abstract and realistic images lining the walls leads to an open space that is possibly the cleanest machine shop imaginable. There's no greasy floor, no oil-stained benches, no smell of burning metal.

Welcome to Waterjets Unlimited, where Grindel manufactures beautiful work such as the pieces adorning his office. Two waterjet machines – enormous square tubs of water on which you could float toy boats – are under a movable part ending in a nozzle.

After viewing a computer monitor and setting up software, Grindel places a piece of metal under the nozzle and starts the machine. "What we're doing is cutting with a ridicu-

lously thin stream of water, a fraction of the size of a human hair, so thin you can't even see it, at pressure of 55,000 pounds per square inch," Grindel said.

Within a few seconds the metal had been perfectly Swiss-cheesed into identical circles.

Waterjet cutting technology has been around for more than 60 years, first used to cut lumber, without much success. Within the past decade the use of ultrahigh water pressure has developed quickly. Manufacturers see the advantage of using a procedure that can cut plastics, tiles and glass without burning or melting the material, as would be the case with a laser. Waterjets can cut foam or rubber, but also work on titanium. A green technology, it releases no emissions or pollutants.

Tarquin Rattotti, president of Farmingdale's LPR Precision, uses waterjets in his business, which has been cutting materials for 45 years. LPR started using waterjet cutting about 12 years ago, but also uses the older techniques of bandsaw and laser. Waterjets, although capable of incredible work, will never replace the older methods, he said.

"You can't get one guy to do it all," Rattotti said. "And you can't get one

machine to do it all."

One downside to waterjet technology is it can be slower than other cutting methods, Rattotti said.

Waterjets Unlimited works with contractors and architects – that Renaissance marble piece is a vent cover for an East End palace – and produces flooring tiles for schools, hospitals and offices. The company also works in rubber and glass.

Waterjets Unlimited also manufactures components for tiny machine parts or for use in large vats and ovens for commercial bakeries.

But "job shops," as machine shops are known in the industry, are suffering. A pillar of the nation's manufacturing sector, job shops have been hurt by the slowing of America's demand for durable goods.

The manufacturing sector failed to grow in July for the 18th consecutive month, while the overall economy grew – albeit slowly – for the third month in a row, according to the Institute of Supply Management. And the ISM reports a gloomy forecast: "Overall it would be difficult to convince many manufacturers that we are on the brink of recovery."

Joseph Papol of Metal Connections, a bandsaw job shop in Bay Shore for a decade, said business has been off 50

percent over the past two years.

"Everyone I talk to says it's half of what it was two years ago for them, too," Papol said.

Metal Connections takes large pieces of metal and cuts them for smaller shops to finish, such as Grindel's.

"We're faster on thicker plates and then he'll produce a finished product," Papol said.

The sluggish private sector economy has hurt, but the drying up of government contracts, especially in the defense industry, has hit job shops hard.

"Everyone is feeling the recession," Rattotti said, declining to put a number on how his business has been affected. "The recession hasn't left anyone untouched."

Grindel said he only had one moment of panic for his business this past winter, when the sales pace turned glacial. But slowly business picked up and he's now confident.

He took a fresh, perfect, waterjet-cut piece from the machine and held it up. "The only other way to cut this is by hand," Grindel said. "And it wouldn't be as good."

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