



THE TRANSOR TIMES



Dumbarton Tool



1986 to
2021

Great Scot!
One Micron Filtration is
the SMART Choice

Dumbarton Tool (Cadillac, MI) was founded by Gordon Gray in 1986 in Detroit. It's the classic American dream that we often hear about. Gordon Gray, an immigrant from Scotland, joined the US military, got his citizenship, and then wanted to start his own business.

Gray decided there was a niche for a variety of high quality, specialty cutting tools. They began to manufacture end mills, reamers, solid carbide round tools, step drills, step reamers and piloted reamers for an ever-growing customer base. Now, 35 years later, Gordon's son Dan Gray runs Dumbarton out of their facility in Cadillac, Michigan, and Dan's son is taking Dumbarton into their third generation.

"Our focus has always been to hire and train skilled operators while providing them with the latest machine technology," said Gray. He continued to say that as Dumbarton has grown, part of their mission has been to deploy technology that enables them to deliver customers superior quality tools at the lowest possible cost per piece.

In those intervening years, Dumbarton has experienced steady growth with an expanding customer base and machining capabilities, with their round and form tools now including PCD and CBN tipped inserts. About 5 years ago, Gray was in the market for some new equipment when someone recommended he take a look at Transor Filter (Arlington Heights, IL) to provide them the most advanced filtration technology. "I've been in the business over 30 years," said Gray, "but I never imagined that filtration could possibly make any



< Dan Sr (R) and his son Dan Jr.

^ Transor unit at Dumbarton Tool

significant difference that could impact our machining process.”

Gray said that they had always used whatever filtration system came with the machine. “I guess looking back on it now,” he continued, “it was really 1980’s style of tanks, band filters and the like. It never occurred to me that I should also be investigating advancements in filtration.”

Several of Dumbarton’s younger machine operators, including Dan’s son, had heard of Transor and visited the Transor booth at IMTS. They came back with the story of how Transor’s One Micron Filtration (OMF) could really impact Dumbarton’s overall machining operation. Still skeptical, Gray called a friend at another company. “I knew they had a Transor,” said Gray, “and he swore by it. I finally decided I should investigate it for myself.”

After several starts and stops, including the COVID slow-down, Gray and his team of young machine operators contacted Transor to see how one of their units might work on a cell of four Walter grinders that were a fairly recent addition to Dumbarton’s equipment list. Gray said he began talking to Phil Stackpole, Transor’s VP of sales. “Phil was very knowledgeable and helpful regarding how a unit would interface with our four Walters,” said Gary. “After he made a trip up here to visit

us, I was convinced we needed to give Transor a shot.”

Machining Benefits Of OMF

“The very first thing we noticed,” said Gray, “was how clean the oil continued to be. All of our old equipment was on individual tanks and as soon as we put new fluid in there, it was only a matter of a week before it was just pure carbide and dirt. Trying



Machining with oil filtered to one micron with the Transor

to get it to filter with the paper filters was a daily headache. Because we had 25 machines, we had to have a full-time guy just to keep them running. They were amazed that they were able to “see in” on the Walters as parts were being ground.” Gray discovered that the entire Transor process with automated backflushing eliminated their maintenance issues. “We had guys in jumpsuits cleaning up the mess caused by inadequate filtration. We’d often lose two days of production just in servicing those machines. Both a headache AND expense. Now, with Transor’s automated process that deposits carbide into a 55-gallon drum, the Dumbarton team is reclaiming carbide easily. “Matter of fact,” says Gray, “the guys laugh at me because I walk out in the shop and just watch that thing slowly



Carbide reclamation made easy with Transor's automated backflushing process.



dripping the carbide into the bucket and I'm like, that's liquid gold right there."

But significantly reduced maintenance and carbide reclamation aren't the only benefits with the Transor. Gray is also experiencing significantly improved cycle times. Typically, all flutes are polished with a leather wheel according to Gray, one of their "trademarks." Gray went on to say, "We're noticing when the tools come off the machines, they've already had a

real smooth micro-finish. So, while we still diamond polish them afterwards, you only have to spend like a minute on each tool compared to 5 or 7 minutes before." He also mentioned that many of Dumbarton's customers wanted coated tools. With the finish achieved just having

Transor's One-Micron filtered clean oil, they no longer have to polish those tools. "That's saving us time, and every minute that we save affects the bottom line," said Gray.

Additional time savings is realized because of the consistent repeatability obtained with the clean oil. "We would always have to check every couple tools because the coolant was so dirty and built up with all that carbide in there," Gray noted. "The guys are confident knowing that we can do a run of 12 tools and they're all going to be the same. We still check them and do a full inspection report, but they're saving time, 2 or 3 minutes walking back and forth checking just to make sure they

don't have to put it back in." All Transor units feature a chiller that maintains oil temperature at +/- 0.1°C. Gray noted that having temperature control has enabled them to eliminate fluting as a separate process. "We couldn't flute the tools on our Walters because the oil would heat up and you'd have a flash," said Gray. "That was part of the process." They had old Unison flute grinders in use prior to moving tools to the Walters. Now, with the temperature control, both processes are done on the Walter and the tool is ready to go out the door. "By eliminating that process," commented Gray, "we've been able to move the Unison machines out of the building, making room for some new grinders."

Gray also noted that Dumbarton's consumables for wheels, oil, etc., have been greatly reduced. He said that wheels were an ongoing expense because with the added build up on them prior to the Transor, they would wear out quickly. "When we installed the Transor, we also replaced the wheel package to get a fresh start. From the outset, I've hardly noticed any wear on them. It's unbelievable."



Growth In The Future

Dan Gray is optimistic about Dumbarton's future as they move into a third generation. They are planning on several new equipment purchases to meet increasing demand. He noted that any new machines will definitely be serviced by a Transor. He jokes about bringing the Transor online. "I'm 64 and I'm kind of old school. The young guys kept pushing me to install the Transor, saying 'Oh, Mr. Gray, if you can just get this...' I kept saying, yeah, yeah, yeah. But I'm glad they persisted. We did it, and like I say, I'm kind of like a hero now."

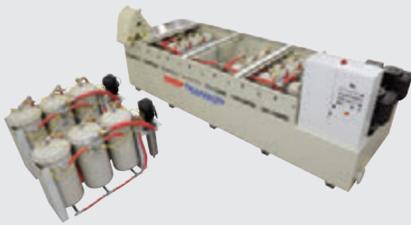
The Transor V-Series Filtration Series



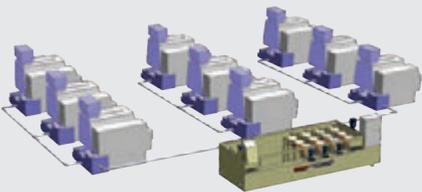
Find Out What Dumbarton Tool Discovered About One Micron Filtration!



V-Series with six filter modules, delivery pumps and Automated sludge handling device.



A filter module consists of filter vessels, plumbing and a filter pump.



A V Series with three modules serving nine machines.



A Sludge Handling Device provides for total automated, untended operation.

As companies grow, expansion is filled with opportunity, but also with questions. How do companies plan for growth? Can machines be placed so that new machines can be added and the layout provides for efficient use of space?

Many companies choose a cellular approach with a group of machines being placed together. As the company grows, another cell is added. While this can work well for many, another option is Transor's new V-Series of "expandable" centralized filtration systems.

The V-Series consists of a number of filter modules. Each module consists of filter vessels, plumbing and a filter pump. The filter module acts as an independent system and any number of modules can be placed into the filter. The smallest V unit consists of three modules designed to produce clean oil at a rate of 80 gpm. As the requirement grows, additional modules can be placed in the filter to increase capacity with no downtime and usually in less than an hour. Maximum capacity of a V Series unit is 7 modules producing 560 gpm.

The V-Series is a complete central system that includes delivery pumps, refrigerant system and an automated sludge handling device for easy handling of debris sludge for reclamation or disposal.

"We grow as you grow!"