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MINIMUM QUANTITY LUBRICATION METALWORKING SYSTEM

MECHANICAL, CIVIL, & ENVIRONMENT

System that controls the amount of cutting fluid dispensed in computer numerical control processes.

TECHNOLOGY TYPE

Manufacturing
Devices
Equipment

STAGE OF DEVELOPMENT

Working prototype developed.

IP PROTECTION

PCT Issued in the United States

System and Method for
Dispensing a Minimum
Quantity of Cutting Fluid
US9616540B2

Continuation Issued in the United States

System and Method for
Dispensing a Minimum
Quantity of Cutting Fluid
US9931734B2

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Reference Number: U-4834

Nick Wilkes

Technology Manager
nick.wilkes@tvc.utah.edu
801-587-0515

TECHNOLOGY SUMMARY

Computer numerical control (CNC) processes are under scrutiny from environmental and regulatory agencies due to excessive use of cutting fluids and subsequent disposal methods. Currently, there is no way to control the amount of cutting fluid used by CNC machines, resulting in wasted fluids and lost money.

Researchers at the University of Utah have developed a system to administer the necessary amount of cutting fluid for the programmed task. This system communicates with the CNC machine in real time, allowing for seamless fluid administration during CNC processing.

FEATURES AND BENEFITS

- Offers real-time control of cutting fluid application to machining process.
- Saves fluid and money lost to excessive use of fluid.
- Provides controllable atomization levels to suit the specific cutting process.

RECENT PUBLICATIONS

A.K. Balaji, S. Rakurty, H. Montemayor, & V. Ghatikar. (2014). A novel multiple cutting fluid dispensing system for sustainable manufacturing. *Society of Tribologists and Lubrication Engineers Annual Meeting and Exhibition 2014*.

INVENTOR PROFILE

Alagar K. Balaji, Ph.D., [Associate Professor – Mechanical Engineering](#)
Venugopal R. Ghatikar, Graduate Research Assistant

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