

# Robotic Dispensing System for Curing or Abrasive Materials



## Description



This semi-automated adhesive dispensing system was assembled for a customer who was applying pre-mixed and frozen electrically conductive adhesives to sample parts for mass spectrometry. These adhesives can be difficult to dispense if they begin to cure quickly, leading to blockages in the dispensing valve or needle if there is any production downtime.

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To address this issue, we installed a [positive displacement auger valve with disposable fluid path](#) onto a [Fisnar benchtop robot](#), and integrated the controls into a [robot enclosure](#) which includes a interlock for operator safety while the robot is in motion.

An automatic purge function can be included in the programming, so that any adhesive in the system approaching the end of its working life can be dispensed to waste. At the end of a shift or after a long period of inactivity, the valve's fluid path can be removed and replaced without further valve disassembly and complicated cleaning. The acetal auger screw in the valve is hard-wearing and has low surface energy for clean dispensing.

A system of this nature is recommended for the precise and accurate dispensing medium to high viscosity adhesives where curing in the valve can cause process and cleaning challenges, or materials which are highly abrasive and which can damage other types of dispensing valves. It can be integrated with accessories such as a vision alignment or height detection system.

## Features & Benefits

- Disposable fluid path allows customer to resume operations within minutes without any cleaning needed
- System provided fully configured and installed, with training provided to get the customer up and running quickly
- Interlocked enclosure protects operators from moving parts
- Controls mounted immediately above the robot for easy access

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## Applications

Dispensing of medium to high viscosity materials, particularly fast-curing adhesives or abrasive materials, including:

- Premixed and frozen adhesives
- Conductive adhesives and pastes
- Solder or brazing paste
- Thermally conductive silicones

## Ordering Information

This robotic dispensing system is an example of our [archytas series of robot integrations](#). If you are interested in a similar system, [get in touch with our Technical Team](#) to discuss your requirements.

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