

Field Report

Hand-Powered Pump Simplifies Chemical Handling for Microcircuit Manufacturer

Ixion Ceramics, Inc., a Chattanooga, TN-based subsidiary of Ixion Technologies, Inc., designs and manufactures microcircuit "packaging" for telecommunications, military, aerospace and other applications. It makes precision-engineered ceramics and metals that begin as slurries and, when shaped and dried, form tapes and pastes that are, in turn, used to create electronic circuits or screen-printed dielectric layers. The layers are stacked to form three-dimensional ceramic packages onto which Ixion's customers place electronic components for specific uses.



Chemicals needed in Ixion's process include alcohols and solvents, such as Toluene. Due to their flammable nature, the chemicals cannot be used with or near electric motors or electric-powered pumps. As a result, most fluids had been dispensed using a gravity-fed system attached to the chemicals' 55-gal. shipping containers. This involved threading a spigot into the top of the drum, placing the drum on a roll-down fixture, and tipping it into a horizontal position for dispensing.

Difficulties with this type of system, included spigots that clogged and leaked, uneven flow rate, and the fact that it did not allow for complete removal of fluid from the drum. Added effort was required to make drums RCRA (Resource Conservation and Recovery Act)-ready.

To avoid these problems, Ixion recently switched to a hand-operated GoatThroat pump. Made in Australia by New York City-based Westcott Distribution, Inc., the pump requires no power and fits containers from 1 to 55 gal. It also allows access to drums in the upright position. "This reduces drum handling and worker injuries," says David Kuster, Ixion's environmental, health and safety coordinator, "and it means no more leaking fittings."

The pumps also enable Ixion to make its containers RCRA-ready, which means they have no more than 2 in. of product left in them after dispensing operations. "These pumps will literally leave only a few ounces of fluid in the bottom," says Kuster. "We were leaving 5 to 8 gallons in the drums before, which was returned to the company we bought it from. Then we had to pay for that much product again."

Besides being a safer alternative to the gravity-fed system, the GoatThroat pump is "a real cost-saver," says Kuster, making it Ixion's pump of choice for its process chemicals.

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