Problem:

Arab Medical Equipment Company (AMECO) sprays silicone into syringe barrels to help the plungers glide during use. The previous method cycled barrels under an air atomizing nozzle. Each machine is capable of producing 15,000 barrels per hour, but the system could only accurately coat about 9,000 per hour. In addition, silicone waste was high because of poor transfer efficiency.

Solution:

The problem has been solved with three AutoJet spray systems – one on each line. Each system uses an optical sensor to detect barrels and sends a signal to the AutoJet spray controller, which in turn, triggers the PulsaJet® electrically-actuated air atomizing nozzle to spray. Using Precision Spray Control (PSC), the precise volume of silicone is applied with minimal waste even when line speed varies. Each cycle takes just six milliseconds at the fastest line speed.
AMECO Increases Syringe Barrel Production by 67% with AutoJet® Spray System – Continued

Results:
The AutoJet spray system achieved the production goal of 15,000 syringe barrels per hour on all three machines. This 67% increase will enable the company to produce an additional 51 million syringe barrels annually. The precision application provided by the system has also resulted in a 30% reduction in silicone consumption. The cost of the AutoJet system was recouped in less than four months.

A CLOSER LOOK AT THE SYSTEM

AutoJet 2008+ Spray Control Panel provides easy control of nozzles and cycles PulsaJet nozzles up to 50% faster.

PulsaJet® electrically-actuated air atomizing spray nozzles provide high transfer efficiency to minimize waste and messy overspray. Cycle speeds up to 15,000 cycles per minute are possible to keep pace with fast line speeds. PulsaJet nozzles can be used with a variety of spray tips to ensure the performance matches the application requirements.

Precision Spray Control (PSC) involves turning nozzles on and off very quickly to control flow rate. This cycling is so fast that the flow often appears to be constant. With traditional nozzles, flow rate adjustments require a change in liquid pressure, which also changes the nozzle’s spray angle/coverage and drop size. With PSC, pressure remains constant enabling flow rate changes without changes in spray performance. PSC requires the use of electrically-actuated spray nozzles and an AutoJet spray controller.

For more information about Precision Spray Control, visit spray.com/psc

Spraying Systems Co.*
Experts in Spray Technology

North Avenue and Schmale Road, P.O. Box 7900, Wheaton, IL 60187-7901 USA
Tel: 1.800.95.SPRAY Intl. Tel: 1.630.665.5000
Fax: 1.888.95.SPRAY Intl. Fax: 1.630.260.0842
www.spray.com

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