



A two-fluid nozzle built into the multi-head nozzle for use in fluidized bed applications.

Nozzle ABCs for power users

State-of-the-art nozzle technology enhances tablet coating productivity

Improved spray arm design and advanced nozzle systems cut set up time in half on state-of-the-art tablet coaters. This has big advantages for contract manufacturers who have found efficient ways of dealing with frequent changeover.

Time is money, and machines only make money when they are producing goods. This is particularly true in the highly competitive contract manufacturing business, where producers have to deal with frequent product changeover. Many manufacturers have learned the hard way that time spent on product changeover and equipment cleaning can be a real drain on the efficiency of tablet production operations. Automation does not entirely eliminate the need for manual intervention in pharmaceutical production. Nozzle system positioning, maintenance and cleaning are still performed by hand. Anyone who has ever cleaned a spray arm in the coating drum of an older generation production system knows how much manual labor is involved. Users need a lot of manual dexterity to manipulate the labyrinth of fittings and tubes and the long arm, and work does not always go as smoothly as planned.

A few years ago, Düsen-Schlick developed a spray arm which alleviates the problem and which in the meantime has set a new stan-

dard in efficient design. "A lot of coating drum manufacturers design our Professional Coating Arm into their machines," said Düsen-Schlick Sales Manager Udo Prell. More than sixty customers have upgraded their coaters, because the advantages are so obvious.

The Schlick development team designed the PCA specifically for coating applications. The new arm completely eliminates the limitations of older systems. The modular system can contain between two and eight nozzles. Each nozzle is mounted on a two and a half centimeter block. The nozzles are held in place with two screws on a full-length tubular manifold which eliminates the need for supply tube fittings and mounting hardware. Because the nozzles are held in place by two screws, no special tools are needed to install or remove them, and set up time is cut in half. An increase in coater productive time is not the only advantage.

According to Prell, the PCA also enhances process reliability. Potential sources of error such as defective tubes are eliminated, and fixed block spacing ensures that incorrect spacing between the nozzles does not cause problems during production.

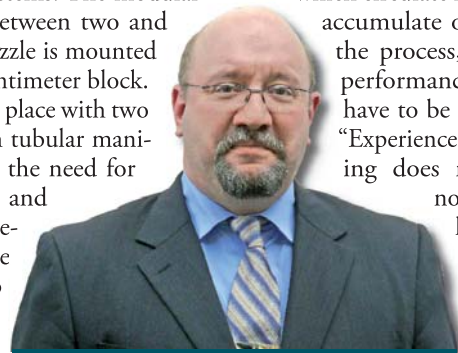
Removing the beard

The nozzle naturally plays a big role in delivering constant spray performance, a uniform spray profile and a reproducible coating result. Two-fluid nozzles, which atomize the coatings to the degree necessary, are normally used to coat tablets with organic or aqueous solvents. Several years ago, Schlick introduced its ABC nozzles which according to Prell have been a big success, achieving a high level of market penetration. Most coaters currently coming onto the market have these nozzles which are made up of only seven parts and can be disassembled without any tools.

ABC stands for anti-bearding cap, a rounded air cap which completely eliminates bearding. "This almost completely eliminates the need to interrupt the coating process to clean the nozzles," explained Prell.

Bearding excluded

Older-style nozzles have two "horns" at the nozzle orifice which create turbulence, causing a build-up of minute dust particles which circulate in the coater. Deposits accumulate on the orifice during the process, degrading spraying performance, and the deposits have to be removed periodically. "Experience has shown that bearding does not occur on ABC nozzles even when problematic fluids are used such as spray paint which contains solvents," pointed out Prell.



„ABC nozzles almost completely eliminate the need to interrupt the coating process to clean the nozzles.“
Udo Prell, Düsen-Schlick Sales Manager

Düsen-Schlick recently installed ABC nozzles for the first time in a fluidized bed. The tests are currently in

progress, and Prell expects to have initial results next spring. For customers who are considering a retrofit but have not yet made the final decision, Prell also offers nozzles on a trial basis to help them make up their mind. "We have the experience to provide the right spraying parameters."

Düsen-Schlick runs spraying trials at its Test Center in Coburg. A spray tunnel for highly active substances is currently being built at the Test Center. When the tunnel is finished next year, engineers will be able to run spray trials using oncological active ingredient suspensions or suspensions containing hormones to coat tablet cores.

agk

Phone: +49 (0) 95 65 / 94 81 - 0

process-worldwide.com
 For further information: www.process-worldwide.com InfoClick 322700