

# Processing Goes Inside ...

## Schenck AccuRate's PureFeed® AP-300 Pharmaceutical Feeder

*Editor's Note: Every issue, Processing will dig beneath the surface to learn the story behind the story of a new product. This month, we examine a 2007 Breakthrough Product of the Year Award winner—the PureFeed® AP-300 Pharmaceutical Feeder from Schenck AccuRate.*

Process companies were critical in assisting Schenck AccuRate in defining the requirements for a new dry material feeder. The companies (Sturtevant, Jet Pulverizer, Hosokawa, Patterson Kelley and Fitzpatrick) all participated in the design spec development, conceptual design evaluation and prototype performance assessments. Several CAMP (The Consortium for the Advancement of Manufacturing of Pharmaceuticals, [www.camppharma.org](http://www.camppharma.org)) members, Patterson Kelley & MIT were involved in the initial functional assessments. Using the specifications defined by the group, Schenck AccuRate engineers worked to design a new feeder that specifically met the needs of pharmaceutical processing applications.

"We were selling into the industry and did have earlier contacts with some of the companies, but in general, we approached organizations we knew had involvement in very specific process areas, told them what we were trying to do and asked them if they would be willing to act

as advisors during the project," says Gary R. Kuehneman, Director of Business Development for Schenck AccuRate.

Based on its conversations, Schenck AccuRate focused on six key areas during the design process:

- Small physical size
- Pharma-grade materials of construction and finishes
- Ease of disassembly and cleaning
- Reduction in the amount of material left (waste) when the feeder was empty
- Material handling versatility (maximizing the range of material characteristics that could be accommodated)
- The ability to handle very small feed rates (as low as 20 grams per hour).

Researching and finalizing the design specification took roughly one year. Design to release of the first production units took just over another year. PureFeed® was officially released in January 2007.

"Much more effort went into researching and developing the product specification than normal," admits Kuehneman. "PureFeed® is the most customer-influenced product line we've ever developed. Unique design elements such as a disposable feed-hopper resulted. PureFeed® is the first and only feeder to feature disposable elements."

The PureFeed® only went through two design modifications before the finished product was launched. There was the initial design and then an updated version to enhance some things Schenck AccuRate learned through more extended use. One example Kuehneman cites is small geometry changes in the disposable feed-hopper to

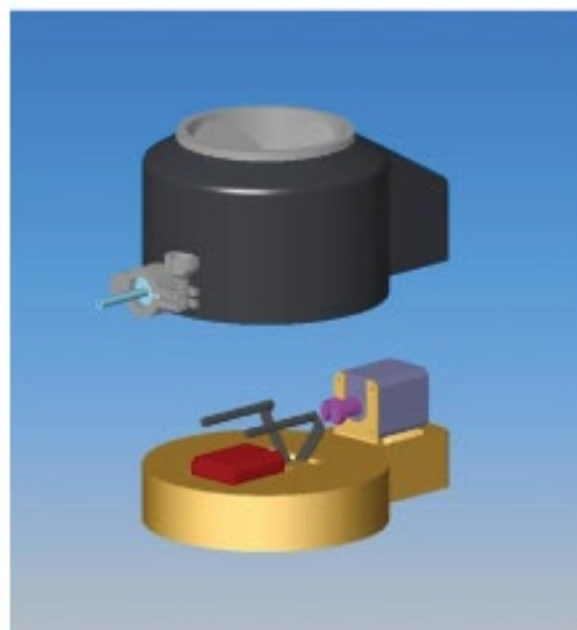
further reduce material residue left when empty and to make hopper installation easier.

Since its release, Schenck has moved to a different gear ratio for the agitation drive and moved from Ertlyte to stainless

steel for the quill (helix drive shaft sleeve). Additionally, Schenck AccuRate tries to support customer-specific requests such as helix and nozzle extensions, extension hopper capacity changes, security features and special control capabilities.



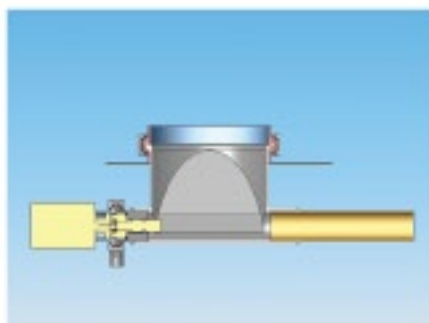
Final version of the PureFeed® AP-300 Pharmaceutical Feeder.



PureFeed® AP-300 initial design concept.



Further development and transformation of the PureFeed® AP-300.



Performance evaluation is on-going through close contact with its customers and Schenck AccuRate's involvement in the NSF Engineering Research Center for Structured Organic Particulate Systems based at Rutgers University.

The PureFeed® AP-300 feeder features a flexible hopper and programmable external dual-arm agitation system for maximizing material handling versatility. The PureFeed® AP-300 uses a flexible FDA-compliant EPDM feed-hopper that is disposable and recyclable. That means simpler, shorter cleaning cycles and virtually no chance of cross-contamination when moving from one material to another. Thirty-two micro-inch RA finishes are standard on all contact surfaces with lower RAs available upon request. A wide range of feed rates spanning from 0.5 to 150 kilograms per hour are available. The number of feeder pieces are kept to a minimum and connections are made using sanitary quick-release clamps so disassembly, cleaning and reassembly is quicker and easier than ever.

To learn more about the PureFeed® AP-300 Pharmaceutical Feeder, go to [www accuratefeeder.com](http://www accuratefeeder.com). If you are interested in having your new equipment, technology or service spotlighted in this new feature, contact Editor-in-Chief Dennis Van Milligen at [dennis@grandviewmedia.com](mailto:dennis@grandviewmedia.com).

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