

Canisters are received on pallets and a cable conveyor transports them to twisting chutes in the filling area that lower them to the packaging line. Air jets located along the twisters blow any dust out of the canisters as they descend. The canisters are then conveyed to a scoop inserter.

Jack Mans, Plant Operations Editor

Founded in 1920 as part of the Carnation Co. to produce malted milk powder and other dry mixes, the Lake Country Foods facility went through several ownership changes in the past 20 years. The last one in 1993 resulted in the formation of Lake Country Foods, which is a privately held company specializing in the contract manufacturing of malted milk powder, hot cocoa mix and bakery



Packaging protein powders

New packaging line at LAKE COUNTRY FOODS runs paperboard canisters of powdered milk products at speeds to 180 canisters/min.

of 180 cans/min. "I've worked with Rich May, president of Richpak Machinery, Inc. (312/225-1207), for a number of years, and he gave us some good suggestions for equipment to include on the new line," says Tom Gnewuch, vp of operations. "In particular, he suggested we talk to All-Fill, Inc. (www.all-fill.com) about the filler and checkweigher and to Confab Systems, Inc. (www.confabsystems.com), which supplied all of the conveyors on the entire line, including the cable conveyors, twisters and the table-top conveyor, as well as the accumulation table after the filler. Confab also provided system integration and all of the controls for the complete line, as well as mechanical installation and startup assistance."

Filler/checkweigher system maintains correct weights

Cans are received stacked nine layers high on a pallet, and a depalletizer pushes one layer at a time onto an unscrambler that single-files them onto a cable conveyor that transports them overhead to the filling line. From there, they go down through twisting chutes from Confab that set them on the conveyor feeding the filler. The plant has four twisters, two for each can size, and gates at their inlets are manually opened or closed depending on what size can is being run. Air jets located along the twisters blow any dust out of the cans as they descend. Because the cans are provided with Sonoco's foil Ultraseal membrane across their tops, product is filled into the open bottom. Therefore, the chute is designed to place the cans upside-

down on the flat conveyor chain with the open bottom facing up.

After the cans are placed on the conveyor, they pass through a centrifugal bowl feeder from Palace Packaging Machines, Inc. (www.unscramblers.com) that places a scoop into each can. In this operation, the scoops are dumped into a floor hopper from which an inclined cleated conveyor lifts them up to the sorter bowl where they are oriented with the open side down and the handle trailing. They then transfer into a rotating accumulation hopper that maintains the orientation and drops them into a two-level rotating starwheel. The scoops drop into sections in the upper level, while canisters

Eighteen funnels are mounted around the top of the rotating filler turret and discharge into the containers that travel synchronously beneath them. Cans then enter the checkweigher. This filler and checkweigher combination holds the weight within +/-10 grams on a 12-oz can.

mixes.

It is a major packager for a number of large companies including Slim-Fast products for the Unilever Co. The plant has three packaging lines running standup bags, plastic jars and cans and canisters, respectively. The newest line, which was installed last fall, runs 401- and 502-diameter spiral-wound composite cans from Sonoco (www.sonoco.com) that range in height from 4 to 8.5 in. and contain from 12 oz to 2.5 lb of product. The cans are made from two plies of recycled paperboard with an inner barrier layer, and the top is sealed at the factory with Sonoco's Ultraseal® peelable foil membrane that includes a pull tab for easy removal.

The line, which runs 180 canisters/min, incorporates a combination of existing equipment and new equipment bought specifically for the new line. During PD's visit, the line was running a 401 can containing 12 oz of Slim-Fast product at a speed

