CLEVELAND VIBRATOR COMPANY

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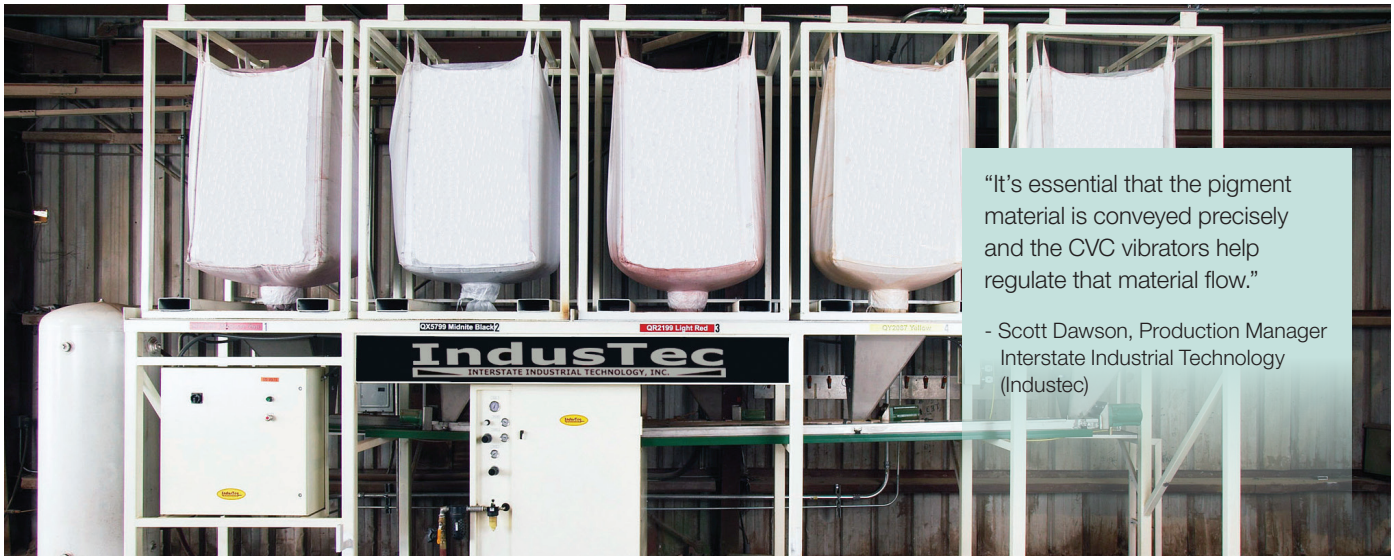
APPLICATION REPORT : FOOD AND AGRICULTURE INDUSTRY

Industec Granular Pigment Dispensing Systems Rely On VMSAC, VMS and SA-EP Piston Vibrators



"It's essential that the pigment material is conveyed precisely and the CVC vibrators help regulate that material flow."

- Scott Dawson, Production Manager
Interstate Industrial Technology (Industec)

CHALLENGE

Industec's popular E-Z Blend granular pigment dispensing system (GDS) has been a company mainstay soon after its founding in 1986. The systems are designed to handle anywhere from 50,000 to 1.5 million pounds or more of volume annually. The GDS can be designed to meter pigment from up to eight feeding stations to accurately batch hundreds of unique blended pigment formulas. Moving pigment material efficiently out of the feeding stations and onto the weigh vessels requires the use of heavy duty vibrators for precise metering and material flow.

SOLUTION

Industec relies on VMSAC, VMS and SA-EP air piston vibrators from Cleveland Vibratory Company. In fact, the company has purchased more than 500 vibrators over the last 10 years from Flori Equipment Company based in St. Louis, Cleveland Vibrator's long-time distributor. The custom-designed E-Z Blend systems include CVC models 1200, 1300, and 1350 VMSAC, the 1125 VMS and 1/2 SA-EP. The CVC vibrators range from 1 1/4" piston diameter size to 3 1/2" diameter depending upon how each system is configured per a customer's specifications.

FEATURED PRODUCTS

1200, 1300 & 1350 VMSAC Air Cushioned and 1125 VMS Impact Vibrators

- Piston weight: 2.5 lbs (1.14 kg) for 1200; 10 lbs (4.55 kg) for 1300; 14.5 lbs (6.59 kg) for 1350; 1.5 lbs (.68 kg) for 1125.
- Overall weight: 16 lbs for 1200; 37.5 lbs for 1300; 45.5 lbs for 1350; 6 lbs for 1125.
- Piston diameter: 2" (5.1 cm) for 1200; 3" (7.6 cm) for 1300; 3 1/2" (8.9 cm) for 1350; 1 1/4" (3.2 cm) for 1125.
- Frequency: 2600 VPM @60 psi, 4.1 bar for 1200; 2300 VPM @ 60 psi, 4.1 bar for 1300; 1900 VPM@ 60 psi, 4.1 bar 1350; 4640 VPM @60 psi; 4.1 bar for 1125.
- Air consumption: 11 cfm, 311 lpm @ 60 psi; 4.1 bar for 1200; 21.5 cfm, 609 lpm @ 60 psi, 4.1 bar for 1300; 23 cfm, 651 lpm @60 psi, 4.1 bar for 1350; 7.4 cfm, 210 lpm @60 psi; 4.1 bar for 1125.

Industec Granular Pigment Dispensing Systems Rely On VMSAC, VMS and SA-EP Piston Vibrators

Since 1986, Interstate Industrial Technology (Industec) has been a leader in manufacturing pigment batching equipment for the concrete manufacturing industry. These intricate systems have been supplied to customers in North America, Europe, Asia and Australia. The company's systems and controls have also been accepted in the printing, agricultural and chemical industries.

But concrete producers are Industec's main customer focus, particularly for its branded E-Z Blend granular pigment dispensing system, according to Scott Dawson, production manager for Industec. "Our dispensing systems are used to make a large variety of concrete products containing color pigments, from landscaping paving blocks and other architectural materials that use colored or stained concrete," he says, adding the systems are designed to handle anywhere from 50,000 to 1.5 million pounds or more of volume annually.

The popular E-Z Blend granular pigment dispensing system (GDS) has been a company mainstay soon after its founding. The GDS can be designed to meter pigment from up to eight feeding stations to accurately batch hundreds of unique blended pigment formulas. Moving pigment material efficiently out of the feeding stations and onto the weigh vessels requires the use of VMSAC, VMS and SA-EP air piston vibrators from Cleveland Vibratory Company.

CVC 1/2" SA-EP spring-activated piston air vibrator works on a frequency of 16,000 VPM @ 60 psi; 4.1 bar and air consumption of 3.8 cfm; 108 lpm @60 psi; 4.1 bar.

CVC VIBRATORS HANDLE THE JOB

The custom-designed E-Z Blend systems include CVC models 1200, 1300, and 1350 VMSAC, the 1125 VMS and 1/2 SA-EP. The CVC vibrators range from 1 1/4" piston diameter size to 4" diameter depending upon how each system is configured per a customer's specifications

"The E-Z Blend system combines fast fill times with accurate results", Dawson notes. "The bulk of the material is added in fast fill. As the fill target is approached, the fill rate is reduced so that the last small amount of pigment is added very precisely. The operator can load up to four blend formulas for each mixer served by the GDS."

This '3-speed fill' approach means the CVC vibrators work continuously to "shake the feeders back and forth" and help move the pigment material into the weigh vessel, according to Dawson. "Each feeding tray has a vibrator and depending upon the color load, the vibrators average three minutes of intermittent run time within a 10-minute batch cycle," he says. "So there is some downtime when the vibrators are not running, but it's essential that the pigment material is conveyed precisely and the CVC vibrators help regulate that material flow."

Technicians at Industec determine which CVC vibrators are installed on the custom-designed E-Z Blend systems for optimum material flow. In a typical four-bag system, the interior two feeders will use a 2" air-piston vibrator while the outer two feeders will employ a 3" air piston vibrator. If a fifth feeder station is designed, then a 3 1/2" or 4" air piston vibrator is recommended.

Customers also have their choice of CVC vibrator models, again depending upon the nature of the job, plant conditions and the volume of pigmented material being processed. "The advantage of using the Cleveland Vibratory models is they are made to start in any position, while other vibrators that we tried need to lean in one direction for them to start," observes Dawson. "We looked at some electromagnetic vibrators from other companies but ultimately chose to install the air-piston models from CVC. We thought it was an effective, economical way of doing it."

ABOUT CLEVELAND VIBRATOR COMPANY

The Cleveland Vibrator Company has been driving innovations in materials handling since 1923. From its corporate headquarters in Cleveland, Ohio, and in partnership with HK Technologies in Salem, Ohio, the organization has met the challenges of more than 15,000 customers around the globe in a vast array of industries. Cleveland Vibrator Company's comprehensive product line includes air-piston, rotary electric, electromagnetic, turbine and ball vibrators, as well as a wide variety of fabricated feeders, vibratory screeners, ultrasonic screeners, vibratory conveyors and vibratory tables used for light, medium and heavy-duty industrial applications.