

## ACE Gas Springs Improve The Safety Of A New Barrel Agitator Station



*Scheugenpflug designed its new barrel agitator station with a special bell, which operators position over the 50-gallon barrel to carry out a number of functions.*

Barrel agitator stations, used to process and stir casting resins, have to carry out a number of complex functions on resin barrels as large as 50 gallons. For a long time, however, companies were using only modified machines from the painting industry, which lacked a number of safety features.

To overcome these challenges, Bavarian-based company Scheugenpflug AG designed a new barrel agitator station and, with the help of ACE Controls, outfitted the machine with industrial gas springs. These components would prevent damage to both the machine and the 50-gallon barrel should the machine experience sudden pneumatic failure.

### **Existing Barrel Agitator Station Challenges.**

Bavarian-based company Scheugenpflug AG is one of the leading manufacturers of innovative adhesive bonding, dispensing and potting technology in the automotive, electronic and medical industries. It is also one of the only companies that can process sensitive casting resins in large 50-gallon casks. Barrel agitator stations assist in this process.

These machines are responsible for the processing, stirring and controlled heating of flowing media. Used in applications with a high material consumption rate, they ensure a homogeneous potting material at certain temperatures. Until recently, however, only modified barrel agitator stations from the enameling and painting sectors were used to stir and process casting resins in large 50-gallon barrels. However, these stations couldn't meet the specific demands of different casting resins.

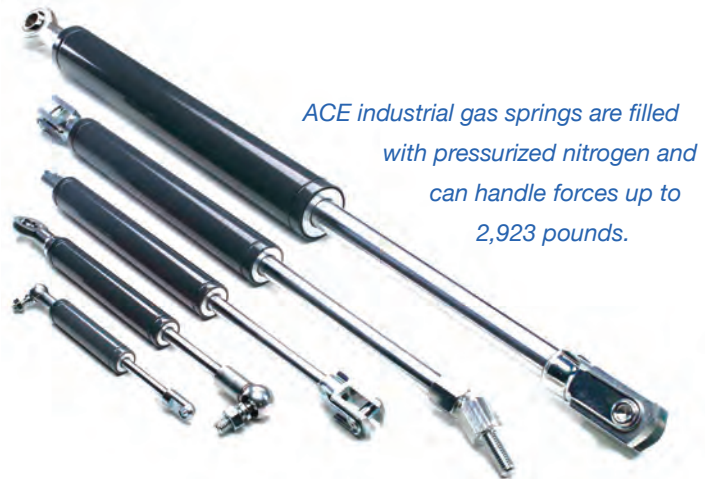
For one, conventional barrel agitator stations couldn't guarantee sufficient sealing of the barrels, which is required to prevent expensive, moisture-sensitive resins from being damaged in hot and humid environments over long periods of time. Secondly, casting resins couldn't be placed in a vacuum, nor be processed directly in the barrel. And finally, existing barrel agitator stations didn't provide many safety features.

This is where ACE came into play.

**Accounting For Pneumatic Failure.** To meet all these requirements, Scheugenpflug's development team designed a new barrel agitator station with a special bell, which operators position over the barrel to carry out a number of functions. Before the stirring process begins, a pneumatic cylinder raises the bell—getting it out of the way so that the barrel can be loaded onto the station. The bell is then lowered again, and the system carries out its functions, including vacuum control, cyclical stirring, heating, monitoring, data recording—and more.



*If the bell isn't repositioned properly, ACE industrial gas springs prevent the agitator station—and the barrel itself—from being damaged in the event of pneumatic failure.*



*ACE industrial gas springs are filled with pressurized nitrogen and can handle forces up to 2,923 pounds.*

In addition to these improvements, the team needed to integrate safety measures in the event of a sudden pressure drop, which would cause the lifting unit to fail and the bell to drop down towards the barrel. This scenario risks damage to the machine, as well as to the barrel itself. To prevent this, Scheugenpflug contacted ACE to help design a solution.

**ACE Industrial Gas Springs Improve Safety.** At first, ACE engineers thought about using pneumatic clamping elements, which achieve millimeter-precise holding and positioning on guide rails. But due to the barrel agitator's construction, integrating these components would have been difficult. As an alternative solution, ACE engineers selected industrial gas springs (type GS-40-1000), which would control the lowering of the bell in the event of pneumatic failure. These maintenance-free, adjustable components can handle forces from 2 to 2,923 pounds, provide up to a 39.37-inch stroke and operate via pressurized nitrogen gas. ACE engineers fill the springs with the gas according to an application's individual pressure requirements.

In this case, ACE engineers worked with Scheugenpflug onsite, carrying out a series of tests to determine how much gas needed to be loaded into the springs in the event of pneumatic failure. Testing was a success, and Scheugenpflug engineers integrated the springs into their new machine. "We're very happy with the ACE springs," Stefan Haltmaier, Scheugenpflug Development Engineer, said. "Of course, we'd prefer if the pressure never drops. But we know the ACE springs will do their job if it does."

**To learn more, please visit: [www.acecontrols.com](http://www.acecontrols.com)**