

BISON® CASE STUDY

 Food & Beverage Market

750 Series Right Angle Gearmotor

CONTACT BISON



Soft Serve Ice Cream Application

Learn how Bison® was able to “shift direction” in gearmotor design for a long-time customer who required a reduced footprint in their next generation soft serve machine.

Background

Soft serve machines use motors and gearmotors to mix the product and pump air into the barrel, creating the necessary pressure for dispensing. Bison® was already supplying a custom parallel shaft AC gearmotor to one of the largest machine manufacturers for the pump application. They were then engaged in the early stages of the manufacturer’s next generation new product development (NPD), which incorporated self-cleaning features into the machines.

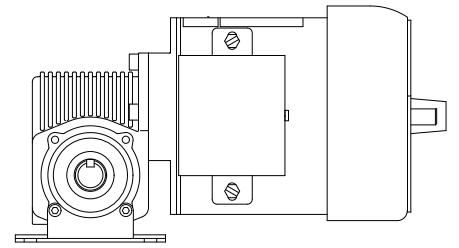
750 Series Right Angle Gearmotor
AC Model Shown



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CHALLENGES:

- **Smaller Footprint** – The self-cleaning version of the machine had a reduced footprint, resulting in a tighter envelope for the Bison® solution.
- **Global Voltage Requirements** – Needed to develop one part number to address global voltage requirements, with constraints on the input motor type
- **Torque Profile Variability** – Required addressing the torque profile within the application, which is affected by the fat content in the product mix.

SOLUTION:

Shifted from the AC parallel shaft to a custom AC right angle gearmotor.

- **Customized Gearbox** – Highly customized to meet tight envelope and interface requirements.
- **Ease of Assembly** – Special features incorporated into the output shaft for easier assembly within the machine.
- **Custom Input Motor** – Addressed both the torque requirements and the wide voltage range with new winding design.

RESULTS:

- **Early Engagement Benefits** – Early engagement of the Bison® team at the clean sheet stage of product development allowed for enhanced value with the gearmotor solution and integration within the tight envelope.
- **Expanded Reach** – The detailed engineering approach and product capabilities enabled Bison® to expand both the customer base and reach within the machine, adding solutions for the mixing application.

ABOUT BISON

For more than 100 years, Bison®, an AMETEK business, has helped customers differentiate their products by developing robust, flexible and durable motors, blowers and pumps under the brand names – Bison® Gear Motors, Lamb® Vacuum Motors, Nautilair® Combustion Blowers, Prestolite Motors DC Brushed Motors, ROTRON® Regenerative Blowers, ROTRON® Transportation and Windjammer® Brushless Blowers.

Bison® engineers thrive on technical challenges and provide customers with collaborative, customizable and optimized fluid-moving, fractional and integral horsepower solutions. Bison® has worldwide sales representative support, research facilities and manufacturing facilities in the United States, China, and Mexico. The company is headquartered in Kent, Ohio.

Bison® is a business of AMETEK – a leading global provider of industrial technology solutions serving a diverse set of attractive niche markets with annual sales over \$6.0 billion.