

Meet Food cGMPs

Stainless steel motors and gearboxes help keep processing equipment contaminant-free

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Engineers for food and beverage processing and packaging equipment strive to make machines go faster with less waste, higher repeatability and better tracking of volume and productivity. These machines are used in aggressive washdown environments where waterspray, chemicals and extreme temperatures are the norm. An additional challenge for OEMs and end users is meeting current Good Manufacturing Practices (cGMPs) to keep the foodstuff unadulterated.

One solution for keeping food and equipment contaminant-free while maintaining productivity is to use stainless steel motors and gearboxes developed especially for the strict requirements of food and beverage production environments.

Food and beverage processing machines typically are designed with one motor controlling the entire system and pulleys, gearboxes or exposed gears to coordinate the motion of multiple axes. Induction motors and general transmissions are commonly used and have historically been protected with powder coatings, enamel paint, nickel plating and/or stainless steel. Gearboxes typically are manufactured from steel or iron with paint or plating protection. These components generally have been installed below the production area in order to lessen the chance of food contamination.

Hence, Rockwell Automation introduced its Allen-Bradley MPS-Series food-grade servo motors. These are made of stainless steel and designed to withstand mild-duty corrosive environments. They have a continuous stall torque of 1.6 to 19.4 Nm (14-173 lb-in.) and include a shaft seal with a hardened wear sleeve for long life. Food-grade grease allow users to mount the motors above the food line. The servo motors are IP67-rated for protection against liquid contamination.

Concurrently, Encompass partner WITTENSTEIN, Inc. came out with its compatible SG series of

gearboxes. This combination is unique because of the smooth transition between the servo motor and the gearbox: no exposed bolts are necessary to attach the motor and gearbox.

The smooth surfaces and stainless steel construction of the gearboxes prevent liquids such as water or chemicals from stagnating so bacteria can't grow. Other types of gearboxes have rough edges and other places for liquids to pool and foster germs. The gearbox components include stainless fasteners and a stainless steel clamping hub for easy disassembly.

In addition, the gearbox has no breathers. This protects against leaks and condensation inside the unit that can cause rust and component failure. The gearbox is IP66 rated and supplied with a food-grade grease so the unit can be placed closer to the production line without compromising food quality.

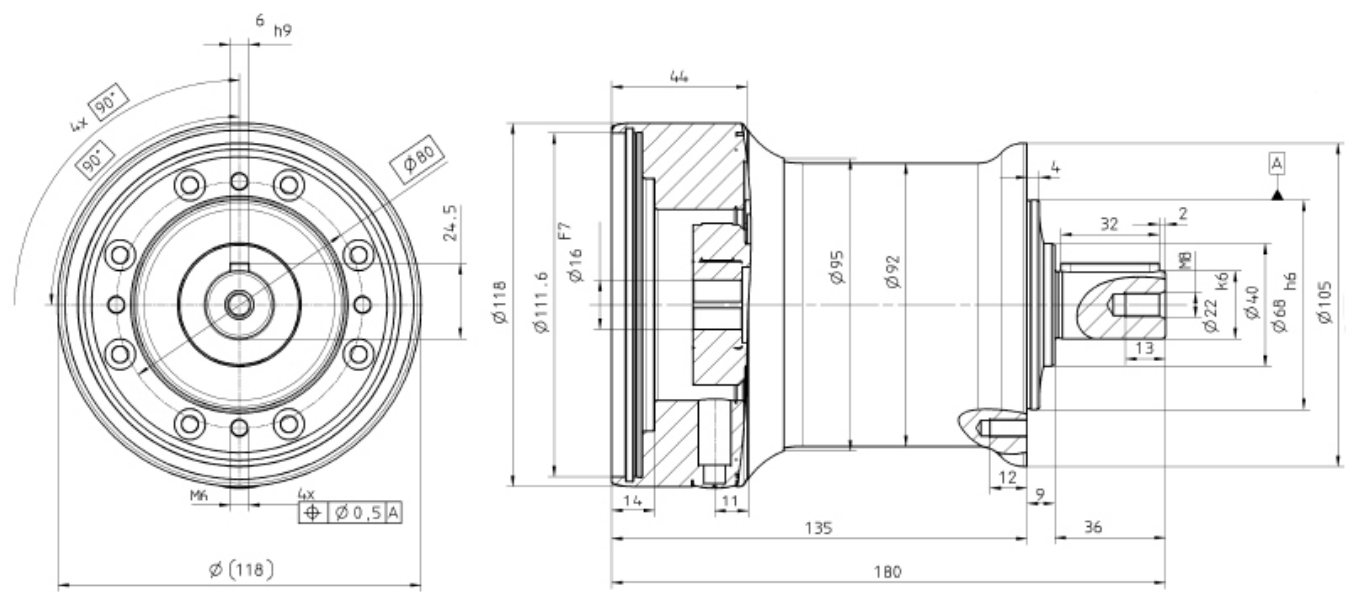
Not all stainless steel is created equal; different types will corrode based on the level of carbon in the steel. The most common type for washdown environments is the iron-chromium-nickel steels, widely known as the 300 series. Because of their high chromium and nickel content, these austenitic stainless steels are the most corrosion resistant, providing unusually fine mechanical properties. alpha's gearbox is made of a stainless steel grade that decreases the likelihood of carbide formation in the steel so that it can operate for years without corrosion.

Not just food and beverage, but many other industries appreciate the numerous advantages of stainless steel reducers from WITTENSTEIN:

- Stainless steel housing & fasteners
- Viton dual lip rotary shaft seal for higher water resistance
- NSF H1 approved food-grade lubricant
- 304-grade stainless steel design which offers superior corrosion protection (no painted, anodized or nickel-plated components)
- Maintenance free and lubricated for life
- Suitable for sanitary material and food processing applications due to finished surfaces (no hiding place for bacteria)
- Configured for Rockwell MPS series stainless steel motors (B5 mount also possible)

When environmental conditions demand a higher level of protection, the alpha SG stainless steel gearbox from WITTENSTEIN offers the ideal solution. Specially designed for washdown and food-grade environments, this product is the most reliable and robust stainless steel gearbox on the market.

SG 095



SG 130

