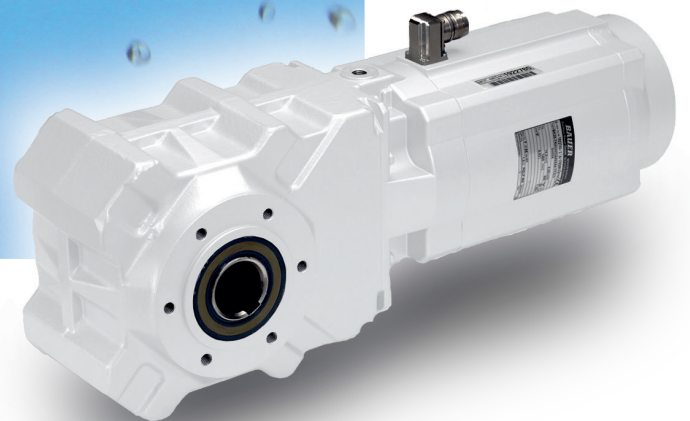




**Hygiene in the  
food and  
luxury foods  
industry**  
Energy  
efficient  
solutions for  
clean  
production

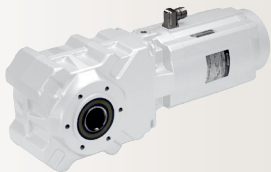


 **Bauer**<sup>®</sup>  
Gear Motor

An Altra Industrial Motion Company



CleanDrive™



AsepticDrive™



AsepticDrive™  
with mounting solutions



CleanConnect®

## Drive system requirements

The food and luxury foods industry is confronted with a constantly growing challenge. The world population has reached nearly seven billion people and the UN anticipates further growth of 79 million people per year in the next five years. The UN assumes that the world population in 2050 will be more than nine billion people. Furthermore, the worldwide demand for high-quality food is increasing dramatically, primarily due to the rapid economic advancement of the newly industrialised countries. This means that food production must increase by nearly 50% in the coming decades.

Accordingly, the food and luxury foods industry must adapt itself to the new situation. Increasing productivity and production volume will become more critical. In order to maintain product quality and if possible improve it during this development, absolute process reliability is essential. No company can afford protracted disruptions due to hygiene problems in production.

For this reason, the requirements for production plants and equipment are becoming more and more stringent. Only those companies that can achieve a harmonious balance of increased productivity and process optimisation will be able to prevail in this growing market. Bauer has found this balance with the aseptic concept. With optimal cleaning characteristics, completely smooth surfaces and very high energy efficiency, we are ready for the future.

In the hygiene-sensitive segments of the food and luxury foods industry as well as the pharmaceutical industry, drive systems are usually located in the same area as the open product flow. This leads to very stringent requirements for hygiene concepts. The drive units should be readily accessible and easy to clean. In addition, they must have the best possible resistance to commonly used cleaning products. Cleaning strategies involving the alternating use of

acidic and alkaline products should be taken into account here. Air turbulence generated by the drive, and the associated air circulation, is another problem that should not be taken lightly.

If in addition the drive system is located above the product, there is a risk of direct contact with the product and contamination of the product cycle. In this situation, special attention must be given to proper hygiene, and bacterial growth on surfaces must be avoided under all circumstances.

With more than eighty years of experience in designing drives, Bauer is a recognised and respected partner in drive engineering. The special aseptic product line, developed specifically for the food industry, promises the highest production hygiene by taking the typical challenges facing this industry into account.



## Solutions

### Surfaces

- Special geared motor design with fully smooth surfaces (roughness value  $R \leq 0.8 \mu\text{m}$ ) to ensure fast and complete cleaning.
- All surfaces slope by at least  $3^\circ$  to prevent the formation of dirt deposits and allow run off of cleaning products.
- The outer surfaces of the drives are coated with a paint that causes water to drip off the surface („lotus effect“). This yields better hygiene properties than stainless steel, which is hydrophilic.
- Bauer aseptic paint is FDA and NSF listed.

### Energy Efficiency

- All motors are designed to comply with the new IE2 energy efficiency class. Most of them already comply with the IE3 energy efficiency class, which will come into force in 2015.

### Degree of Protection

- The drives have the degree of protection IP 67 (resistant to short-term immersion) as standard; IP 69K (resistant to high-pressure cleaning) is optionally available.

### Cleaning

- The drives can be cleaned with all commercially available products having pH values of 2 to 12. This makes it considerably easier for plant engineering firms to comply with the new Machinery Directive (2006/42/EC).
- The use of non-ventilated motors eliminates the distribution of micro-organisms in production facilities by air streams generated by motor fans.

### Mounting

- Full encapsulation of brakes and encoders is possible.
- Hollow and keyed shafts are available in V4A steel.
- All connections are implemented using stainless steel plug-and-socket connectors or cable glands.
- The smooth case design eliminates the need for stainless steel covers, so hygiene problems due to contamination under these covers are eliminated. Removing these protective covers also enables further cost optimisation.

### FDA

The Food and Drug Administration (FDA) is responsible for protecting public health in the USA. The FDA issues guidelines for the composition and production of drugs and food, which are mandatory regulations for products manufactured in the USA or exported to the USA. They are also used as guidelines for products manufactured and used in the EU.

### Motor ratings

Available ratings for continuous duty (S1):

Motor type	Rating	Feature
DA05LA4	0,06 kW	
DA05LA4	0,09 kW	
DA05LA4	0,12 kW	
DA08LA4	0,25 kW	
DA08LA4	0,37 kW	IE3 compl.
DA09LA4	0,55 kW	IE3 compl.
DA09XA4	0,75 kW	IE3
DA09XA4	1,1 kW	IE2
DA11LA4	1,5 kW	IE3
DA11LA4	2,2 kW	IE2

**Couplings**

**Ameridrives Couplings**

*Mill Spindles, Ameriflex, Ameridisc*

Erie, PA - USA  
1-814-480-5000

*Gear Couplings*

San Marcos, TX - USA  
1-800-458-0887

**Bibby Transmissions**

*Disc, Gear, Grid Couplings, Overload Clutches*

Dewsbury, England  
+44 (0) 1924 460801

Boksburg, South Africa  
+27 11 918 4270

**TB Wood's**

*Elastomeric Couplings*

Chambersburg, PA - USA  
1-888-829-6637 – Press #5

*For application assistance:  
1-888-829-6637 – Press #7*

*General Purpose  
Disc Couplings*

San Marcos, TX - USA  
1-888-449-9439

**Ameridrives Power Transmission**

*Universal Joints, Drive Shafts, Mill Gear Couplings*

Green Bay, WI - USA  
1-920-593-2444

**Huco Dynatork**

*Precision Couplings and Air Motors*

Hertford, England  
+44 (0) 1992 501900

Charlotte, NC - USA  
1-800-825-6544

**Linear Products**

**Warner Linear**

*Linear Actuators*

Belvidere, IL - USA  
1-800-825-6544

*For application assistance:  
1-800-825-9050*

St Barthelemy d'Anjou, France  
+33 (0) 2 41 21 24 24

**Electromagnetic Clutches and Brakes**

**Warner Electric**

*Electromagnetic Clutches and Brakes*

New Hartford, CT - USA  
1-800-825-6544

*For application assistance:  
1-800-825-9050*

St Barthelemy d'Anjou, France  
+33 (0) 2 41 21 24 24

*Precision Electric Coils and Electromagnetic Clutches and Brakes*

Columbia City, IN - USA  
1-260-244-6183

**Matrix International**

*Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes*

Brechin, Scotland  
+44 (0) 1356 602000

New Hartford, CT - USA  
1-800-825-6544

**Inertia Dynamics**

*Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes*

New Hartford, CT - USA  
1-800-800-6445

**Overrunning Clutches**

**Formsprag Clutch**

*Overrunning Clutches and Holdbacks*

Warren, MI - USA  
1-800-348-0881 – Press #1

*For application assistance:  
1-800-348-0881 – Press #2*

**Marland Clutch**

*Roller Ramp and Sprag Type Overrunning Clutches and Backstops*

South Beloit, IL - USA  
1-800-216-3515

**Stieber Clutch**

*Overrunning Clutches and Holdbacks*

Heidelberg, Germany  
+49 (0) 6221 30 47 0

**Heavy Duty Clutches and Brakes**

**Wichita Clutch**

*Pneumatic Clutches and Brakes*

Wichita Falls, TX - USA  
1-800-964-3262

Bedford, England  
+44 (0) 1234 350311

**Twiflex Limited**

*Caliper Brakes and Thrusters*

Twickenham, England  
+44 (0) 20 8894 1161

**Industrial Clutch**

*Pneumatic and Oil Immersed Clutches and Brakes*

Waukesha, WI - USA  
1-262-547-3357

**Gearing**

**Boston Gear**

*Enclosed and Open Gearing, Electrical and Mechanical P.T. Components*

Charlotte, NC - USA  
1-800-825-6544

*For application assistance:  
1-800-816-5608*

**Bauer Gear Motor**

*Gearred Motors*

Esslingen, Germany  
+49 (711) 3518-0

**Nuttall Gear and Delroyd Worm Gear**

*Worm Gear and Helical Speed Reducers*

Niagara Falls, NY - USA  
1-716-298-4100

**Belted Drives and Sheaves**

**TB Wood's**

*Belted Drives*

Chambersburg, PA - USA  
1-888-829-6637 – Press #5

*For application assistance:  
1-888-829-6637 – Press #7*

**Engineered Bearing Assemblies**

**Kilian Manufacturing**

*Engineered Bearing Assemblies*

Syracuse, NY - USA  
1-315-432-0700

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