



## Gearing & Motor Solutions for The Food & Beverage Industry



 **Bauer Gear Motor®**  
Altra Industrial Motion

 **Boston Gear®**  
Altra Industrial Motion



## ALTRA INDUSTRIAL MOTION PROVIDES POWER TRANSMISSION SOLUTIONS FOR THE FOOD AND BEVERAGE INDUSTRY

Tightened federal regulations regarding food safety and hygiene in food processing and beverage industries has forced producers to continue to adapt their equipment to meet those changing requirements.

The areas in production facilities where drive systems are located are often the areas that have the most stringent requirements for hygiene and sanitation, due to their proximity to the food product. The key to food safety is prevention of microbial contamination and bacteria growth. Equipment in these areas needs to be resistant to alkali or acid based cleaning agents and disinfectants.



For installations where the drive system is located above the food product, there is a higher risk of product contamination due to rigorous cleaning standards. For these installations special attention must be given to drive design & materials, so that bacterial growth on surfaces will be avoided. Drive systems with the most extreme protection such as stainless steel and aseptic units are most often utilized in these applications.

For installations located near but below the food line, exposure is less likely but still possible. Therefore, it is recommended that the drive units be readily accessible, easy to clean, and have resistance to commonly used cleaning products. In these applications, painted drive systems are often used.

In other areas of the plant where there is no contact with open product flow, the hygiene requirements are typically less strict, allowing for standard finish drive products.

Some producers use highly caustic wash down solutions; others use high-pressure hot water. Equipment can also be exposed to process by-products such as sugar, seasonings, brines, or animal blood. Whatever challenges the integrity of your drive system, Altra has a solution for you. The family of gearing & motor products manufactured by Boston Gear and Bauer Gear Motor includes varying degrees of protection against the harsh elements increasingly used in the prevention of microbial contamination and bacterial growth in hygiene sensitive environments.

**[www.AltraFoodandBeverage.com](http://www.AltraFoodandBeverage.com)**

## AS THE LEADING INNOVATORS IN GEARING & GEAR MOTOR TECHNOLOGY...

**Boston Gear and Bauer Gear Motor** provide a full complement of worm and helical gear drives with varying degrees of sanitary protection to meet the needs of the diverse requirements within a production facility. From standard cast iron and aluminum housings and white or stainless epoxy paint to fully aseptic or complete stainless steel units, Boston Gear and Bauer Gear Motor can provide a drive solution to meet the application requirements.

### Boston Gear

#### **700 Series Worm Gearing**

Standard Finish • White Bost-Kleen™  
Stainless Bost-Kleen™ • Stainless Steel



#### **Washdown Performance Motors**

Standard Finish • White Bost-Kleen™  
Stainless Steel



#### **2000 Series Helical Gearing**

Standard Finish • White Bost-Kleen™ • Stainless Bost-Kleen™ • Stainless Steel



### Bauer Gear Motor

#### **Standard Drives**

Helical-Gear Motor Series BG  
Helical Bevel-Gear Motor Series BK  
Helical Worm-Gear Motor Series BS  
Shaft-Mounted Gear Motor Series BF



#### **Washdown Duty Drives**

CleanDrive™ • AsepticDrive™  
AsepticDrive™ with Mounting Solutions



## DURABLE PROTECTION AGAINST THE MOST **EXTREME** DUTY CAUSTIC WASHDOWNS



### **SS2000 Series Helical Bevel Gear Motor** *Boston Gear*

- 316 series stainless exterior
- Domed crown & rounded corners for superior washdown run-off
- Premium efficiency of ground helical bevel gearing
- Mounting registers speed-up installation
- Automatic entrapment of metallic wear debris prolongs product life
- Laser-marked nameplate impervious to the effects of caustic washdown
- Sealing options for high-pressure washdown exposure
- Stainless steel AC motors provide complete washdown gear motor solutions
- Output torque to 7,700 lbf-in (870 Nm)
- Input power to 10 HP (7.5 kW)



### **AsepticDrive™** *Bauer Gear Motor*

- Enclosure IP 67 and IP 69K with acid and alkali resistant coating as standard
- Available with helical, parallel shaft, bevel and worm gears, catering to the majority of design requirements
- Rounded housing with smooth uninterrupted surfaces designed to prevent particle accumulation and pooling fluids
- The use of non-ventilated motors eliminates distribution of microorganisms by airstreams generated by motor fans
- Motor connection through standard stainless steel plug connector
- Motor windings are equipped with thermistors and class F insulation
- Stainless steel solid or hollow shaft options

## WHY DO CUSTOMERS CHOOSE **BAUER GEAR MOTOR** OVER ANY OTHER BRAND?



**Problem:** A large food manufacturer producing jam, confectionery products, chocolate and a variety of dairy products found their existing solution did not provide enough protection against disinfectants and cleaning solutions.

**Solution:** Bauer aseptic geared motors were chosen because the smooth Bauer aseptic motor housing design eliminates the motor cooling ribs and fan areas where dirt and debris gather and are almost impossible to reach and where cleaning solutions cannot drain off causing so called "dirt traps." The design allows thorough cleaning once production has ended and the aseptic paint provides protection against the acid or alkali-based cleaning agents which, in combination with disinfectants, ensure that all relevant germs and bacteria are destroyed.





### SS700 Series Worm Gear Speed Reducer *Boston Gear*

- 316 series stainless exterior
- Rounded housing with smooth uninterrupted surfaces designed to prevent particle accumulation and pooling fluids
- 303 stainless steel output shafts
- Lubricated with H1 food grade lubricant (Klubersynth UH1 6-460)
- No crevices for food to collect
- Recessed and covered hardware
- Laser marked nameplate information
- Removable mounting feet
- Ratios up to 3600:1 and hollow output bore sizes up to 2 inches
- NSF International™ Certified and marked



### Stainless Steel Motors *Boston Gear*

- 316 stainless steel enclosure with 303 stainless steel output shafts
- Inverter duty and UR/ULc/CE Certified
- Epoxy-coated windings
- O-rings and enhanced sealing features
- Internally-locked bearings to eliminate unwanted axial movement
- Class F insulation
- Stocked availability from 0.5HP to 3HP

## WHY DO CUSTOMERS CHOOSE **BOSTON GEAR** OVER ANY OTHER BRAND?



**Problem:** A large olive producer had tried various epoxy-coated speed reducers and found that they could not hold up to the acidic brine solutions and oils used on the processing lines.

**Solution:** Boston Gear Stainless Steel 700 Series speed reducers were installed and provided the corrosion resistance required to meet this challenging caustic washdown environment. 700 Series innovative rounded housing design, hardware covers, and a two-piece mounting base prevent foreign matter adherence and fluid accumulation on or under the units. The housings, motor flange, and carrier are crafted from 316SS to endure tough, caustic washdowns while preventing microbial contamination and bacterial growth.

## DURABLE PROTECTION AGAINST **LIGHT** TO **MODERATE** DUTY CAUSTIC WASHDOWNS



**700 Series Washdown**  
**Boston Gear**



**2000 Series Washdown**  
**Boston Gear**



**Clean Drive**  
**Bauer Gear Motor**

Bost-Kleen™ and Stainless Bost-Kleen™ speed reducers are robust enough to handle caustic and high pressure washdown, strong enough to go 24/7, and more economical than alternative models.

- Unique water-based Bisphenol-F type epoxy is corrosion and crack resistant
- Durable, non-toxic paint
- Washable and scrubable, even at high pressures and with caustic cleaners
- Smooth surface to resist contaminants and bacteria
- USDA approved for use in food processing or where incidental food contact may occur
- Extensive right angle worm offering with ratings from 1/6HP to 25HP
- Inline and right angle helical product family with ratings up to and beyond 75HP

- Geared motors for the food & beverage industry in a designed enclosure with acid and alkali resistant coating as standard
- Motor without fan and cooling fins
- Motor power 0.12 kW
- Motor winding is ISO Class F with thermistors as standard
- Motor connection through standard terminal box or stainless steel cable gland
- Compact bevel or helical gear for high torque

## WHY DO CUSTOMERS CHOOSE **BOSTON GEAR** OVER ANY OTHER BRAND?



**Problem:** A frozen vegetable processor needed to upgrade an existing sanitary conveyor operation within an existing footprint. A sanitary washdown conveyor was needed to move frozen peas, corn and carrots up a 40° incline and dump into 52" tall tote containers.

**Solution:** A stainless steel sanitary incline plastic belt conveyor, incorporating a Boston Gear Bost-Kleen 700 Series speed reducer, was designed to meet the customer's sanitary criteria and fit within the existing powertrain footprint. The plastic belt was equipped with cleats to convey the loose frozen vegetables up the steep incline. The conveyor also maintained industry accepted sanitary designs for direct food contact and frequent washdown. The Bost-Kleen 700 Series reducer utilizes a corrosion-resistant, durable white epoxy finish for contamination-safe operation in tough food processing washdown environments. The unique water-based epoxy is washable and scrubable, even at high pressures and with caustic cleaning solutions. The Boston Gear reducer, with proven 700 Series worm gear reliability, features a Posivent® pressure compensation system and double-lipped oil seals. Units are "Lubricated for Life" at the factory with H1-rated food grade Klubersynth UH1 6-460 lubricant.

# STANDARD PRODUCTS

## FOR NON-CONTACT FOOD & BEVERAGE APPLICATIONS



**Worm Gear Speed Reducer  
700 Series**  
*Boston Gear*

700 Series is known throughout the industry for its durable, efficient, and trouble-free performance. And with our Reducer Express™ service, we'll ship any of our 15 million different speed reducer combinations, in stock or not, by air within 24 hours - or we'll pay the freight.

- 12 center distances rated from 1/6HP to 25HP
- Single reduction ratios from 5:1 to 100:1
- Double reduction ratios from 100:1 to 3600:1
- Bored-to-size, hollow output shafts from 5/8" to 3-7/16"
- Available inputs include projecting input shaft, quill-mount C-Face and QC quick connect coupling mount



**Helical Gear Motor  
Series BG**  
*Bauer Gear Motor*

Compact and economical inline helical gear motors designed to operate with minimal maintenance.

- Motor power from 0.04 HP to 100 HP
- 13 gearbox sizes for torques from 175 lbf-in Nm to 160,000 lbf-in
- New attachment possibilities with low design height
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard



**Helical & Helical Bevel Gearing  
2000 Series**  
*Boston Gear*

Altra's competitive displacement helical gear product offering is designed with critical dimensions equivalent to select competitor gear drives.

- 10 robust frame sizes with output torque ratings up to 40,000 lbf-in and exceeding 100HP
- Unique mounting registers for quick, precision alignment
- Extensive range of output shaft and mounting options
- Unique rounded surfaces allow for easier cleaning
- Integrated o-rings at mounting interfaces provide high leak and ingress resistance
- Automatic entrapment of wear debris for longer life



**Helical Worm-Gear Motor  
Series BS**  
*Bauer Gear Motor*

Economical, right-angle, worm-gear motors install easily in the tightest applications.

- Motor power from 0.04 HP to 7.37 HP
- 8 gearbox sizes for torques from 220 lbf-in to 8,850 lbf-in
- Hollow shaft version available from 220 lbf-in
- High loadable worm gearing for long lifetime
- Enclosure IP 65 as standard



**Helical Bevel-Gear Motor  
Series BK**  
*Bauer Gear Motor*

Power-dense, right-angle, bevel-gear motors ensure the highest efficiency especially when used with frequency inverters.

- The right angle gearbox with universal attachment possibilities
- Motor power from 0.04 HP to 100 HP
- 10 gearbox sizes for torques from 705 lbf-in to 160,000 lbf-in
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard



**Shaft-Mounted Gear Motor  
Series BF**  
*Bauer Gear Motor*

Shaft-mounted gear motors with integrated torque arm are easily integrated and economically applied.

- The right angle gearbox with universal attachment possibilities
- Motor power from 0.04 HP to 100 HP
- 10 gearbox sizes for torques from 705 lbf-in to 160,000 lbf-in
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard

Belted Drives and Sheaves	Couplings Cont.	Gearing	Linear Products
<b>TB Wood's</b> <i>Belted Drives</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance:</i> 1-888-829-6637 – Press #7	<b>TB Wood's</b> <i>Elastomeric Couplings</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance:</i> 1-888-829-6637 – Press #7 <i>General Purpose Disc Couplings</i> San Marcos, TX - USA 1-888-449-9439	<b>Bauer Gear Motor</b> <i>Geared Motors</i> Esslingen, Germany +49 (711) 3518-0 Middlesex, NJ - USA 1-732-469-8770  <b>Boston Gear</b> <i>Enclosed and Open Gearing,                      Electrical and Mechanical                      P.T. Components</i> Charlotte, NC - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-816-5608  <b>Nuttall Gear and                      Delroyd Worm Gear</b> <i>Worm Gear and                      Helical Speed Reducers</i> Niagara Falls, NY - USA 1-716-298-4100	<b>Warner Linear</b> <i>Linear Actuators</i> New Hartford, CT - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-825-9050 Saint Barthélemy d'Anjou, France +33 (0)2 41 21 24 24  <b>Overrunning Clutches</b>  <b>Formsprag Clutch</b> <i>Overrunning Clutches                      and Holdbacks</i> Warren, MI - USA 1-800-348-0881 – Press #1 <i>For application assistance:</i> 1-800-348-0881 – Press #2  <b>Marland Clutch</b> <i>Roller Ramp and Sprag Type                      Overrunning Clutches                      and Backstops</i> South Beloit, IL - USA 1-800-216-3515  <b>Stieber Clutch</b> <i>Overrunning Clutches                      and Holdbacks</i> Heidelberg, Germany +49 (0) 6221-30470
<b>Couplings</b>  <b>Ameridrives</b> <i>Mill Spindles, Ameriflex,                      Ameridisc</i> Erie, PA - USA 1-814-480-5000 <i>Gear Couplings</i> San Marcos, TX - USA 1-800-458-0887 <i>Universal Joints, Drive Shafts,                      Mill Gear Couplings</i> Erie, PA - USA 1-920-593-2444  <b>Bibby Turboflex</b> <i>Disc, Gear, Grid Couplings,                      Overload Clutches</i> Dewsbury, England +44 (0) 1924 460801 Boksburg, South Africa +27(0) 11 918 4270  <b>Guardian Couplings</b> <i>Engineered Flywheel Couplings,                      Engine Housings and Pump Mounts,                      Flexible Shaft Couplings</i> Michigan City, IN - USA 1-219-874-5248  <b>Huco</b> <i>Precision Couplings and                      Air Motors</i> Hertford, England +44 (0) 1992 501900 Chambersburg, PA - USA 1-888-829-6637  <b>Lamiflex Couplings</b> <i>Flexible Couplings, Bearing                      Isolators, and Coupling Guards</i> Cotia, SP - Brasil +55 (11) 4615-6300	<b>Electromagnetic                      Clutches and Brakes</b>  <b>Inertia Dynamics</b> <i>Spring Set Brakes; Power On and                      Wrap Spring Clutch/Brakes</i> New Hartford, CT - USA 1-800-800-6445  <b>Matrix</b> <i>Electromagnetic Clutches                      and Brakes, Pressure Operated                      Clutches and Brakes</i> Brechin, Scotland +44 (0) 1356 602000 New Hartford, CT - USA 1-800-825-6544  <b>Warner Electric</b> <i>Electromagnetic Clutches                      and Brakes</i> New Hartford, CT - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-825-9050 Saint Barthélemy d'Anjou, France +33 (0)2 41 21 24 24 <i>Precision Electric Coils and                      Electromagnetic Clutches and                      Brakes</i> Columbia City, IN - USA 1-260-244-6183  <b>Engineered                      Bearing Assemblies</b>  <b>Kilian</b> <i>Engineered Bearing                      Assemblies</i> Syracuse, NY - USA 1-315-432-0700	<b>Heavy Duty                      Clutches and Brakes</b>  <b>Industrial Clutch</b> <i>Pneumatic and Oil Immersed                      Clutches and Brakes</i> Waukesha, WI - USA 1-262-547-3357  <b>Svendborg Brakes</b> <i>Industrial Brakes and                      Brake Systems</i> Vejstrup, Denmark +45 63 255 255  <b>Twiflex</b> <i>Caliper Brakes and Thrusters</i> Wichita Falls, TX - USA 1-844-723-3483 Twickenham, England +44 (0) 20 8894 1161  <b>Wichita Clutch</b> <i>Pneumatic Clutches                      and Brakes</i> Wichita Falls, TX - USA 1-800-964-3262 Bedford, England +44 (0) 1234 350311	For information concerning our sales offices in Asia Pacific check our website <a href="http://www.altramotion.com.cn">www.altramotion.com.cn</a>