



# Power Transmission Solutions for Food & Beverage Applications



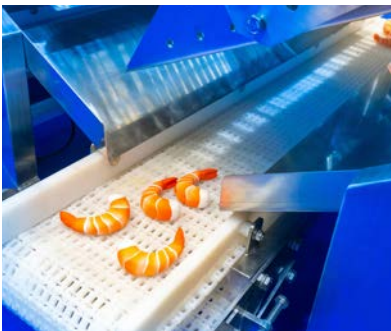
## ALTRA MOTION PROVIDES FULL DRIVETRAIN SOLUTIONS FOR FOOD AND BEVERAGE APPLICATIONS

The industry-leading global brands of Altra Motion provide precision engineered power transmission components to meet the most demanding washdown requirements for all types of food and beverage processing applications. Altra offers a full range of drivetrain solutions including geared motors, speed reducers, air motors, clutches & brakes, torque-limiting devices, couplings, bearings and shaft accessories.

Altra Motion utilizes advanced technologies, materials and coatings together with extensive application expertise and world-class engineering capability to provide custom-designed, efficient, cost-effective solutions to our customers. For this reason, many of the world's leading food and beverage producers and OEMs choose Altra products for their power transmission needs.

Highly engineered Altra products provide exceptional performance in a wide range of applications including bakery & snacks, meat & poultry, fruits & vegetables, dairy, candy and bottling & capping.

Altra brands that support the food and beverage market include Bauer Gear Motor, Boston Gear, Formsprag Clutch, Huco, Kilian, Stieber, and Warner Electric.



### Extreme Washdown Duty

Equipment positioned above exposed food product

For installations where the drive system is located above the food product, there is a higher risk of product contamination.

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.



### Light to Moderate Washdown Duty

Equipment positioned near or below exposed food product

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, specially coated or stainless steel drive systems are often used.



### Standard Duty

Equipment positioned away from exposed food product

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





## EXTREME WASHDOWN-DUTY SOLUTIONS

### STAINLESS STEEL PROVIDES THE HIGHEST RESILIENCE IN HARSH WASHDOWN APPLICATIONS

#### Boston Gear

#### SS2000R Series Helical Bevel Gear Drives



SS2000R models feature a 316 Series stainless steel housing with domed crown and rounded corners for superior washdown runoff in harsh environments where high-pressure caustic solvents and cleaners are utilized.

With the premium efficiency of ground helical gearing (98% per gear mesh) and increased tooth contact area, SS2000R helical bevel drives are ideal for use in high torque applications with continuous or high duty cycle operations, high-ratio reduction, and limited access installations where long life is a necessity.

- Output torque to 7,700 lb.in. (870 Nm)
- Input power to 10 HP (7.5 kW)
- Unique mounting registers and keyless tapered bushings allow for fast and easy installation
- Automatic entrapment of wear debris
- Large diameter oil fill/drain holes
- Synthetic food grade H1 lubrication
- Variety of optional hollow output bore sizes including tapered bushings
- Motor flange O-ring minimizes ingress of particles or fluids
- Accessories include: output shaft cover, output flange, base mounting feet & torque arm
- Dimensional drop-in replacements for SEW Eurodrive® KA Series models

#### Boston Gear

#### SS2000 Series Helical Inline Gear Drives



SS2000 series gear drives feature enhanced performance, design flexibility, fast and easy installation and low maintenance. The stainless steel domed crown rounded housing prevents foreign matter adherence and fluid accumulation.

With efficiency of 98% per gear mesh, Series 2000 Inline Helical Gear Drives are ideal for use in applications with continuous or high duty cycle operations, high-ratio reduction, and limited access applications where long life is a necessity.

- Output torque to 7,500 lb in. (847 Nm)
- Input power 1/3 HP to 30 HP (.248 - 22.37 kW)
- Ratios from 3:1 to 193:1
- Stainless steel 303/304 machined components
- Laser marked nameplate
- Field-installable piloted output flange 303 stainless steel shaft
- H1 Food grade Klubersynth UH1 6-460 maximizes torque capacity
- Unique mounting registers allow for quick precision alignment
- Rare-earth magnets near gear mesh provide entrapment of wear debris
- NEMA or IEC C-face motor input
- Dimensional drop-in replacements for SEW Eurodrive® R Series models



## EXTREME WASHDOWN-DUTY SOLUTIONS

### STAINLESS STEEL PROVIDES THE HIGHEST RESILIENCE IN HARSH WASHDOWN APPLICATIONS

#### Boston Gear

##### SS700 Series Worm Gear Speed Reducers



The popular Boston Gear 700 Series worm gear speed reducer has been a foundation in food and beverage applications for decades.

Blending trusted 700 Series worm gearing with an innovative exterior design, the stainless steel 700 Series has been optimized to withstand the harshest washdown conditions.

Units feature trusted 700 Series worm gearing, a 316 stainless rounded housing with smooth, uninterrupted surfaces designed to prevent particle accumulation and pooling fluids, double lipped shaft seals, covers for all hardware and counter-bored holes.

- 5:1 - 100:1 Single reduction ratio
- 100:1 - 3600:1 - Double reduction
- NSF International certified
- 316 stainless steel housing, bearing carriers and flanges
- 303 stainless steel output shafts
- Rounded housing eliminates virtually all flat surfaces and prevents foreign matter accumulation or standing fluid
- Elimination of all exposed hardware
- Lubed for life with H1 rated food grade lubricant Klubersynth UH1 6-460
- Motor flange O-ring minimizes ingress of particles or fluids
- Polished matte finish maintains clean appearance throughout operation
- IP69K-Rated when ordered with the high pressure washdown seal option
- Available with hollow and solid output shafts

#### Boston Gear

##### SSHMF Helical Multipliers



SSHMF models can be used as a stand alone or as a prefix for other Boston Gear stainless steel reducers and drives. Units feature a 316 Series stainless steel housing with graded surfaces to promote washdown solution runoff.

The parallel shaft design minimizes overall length. Ground helical gearing provides high-torque, durable operation.

- 1.5:1 - 7:1 Single reduction
- 316 stainless housing
- C-Face NEMA 56C and 140TC mounting for input and output
- Laser marked nameplate
- Motor flange O-ring minimizes ingress of particles or fluids
- Easy-access lube port H1 food-grade synthetic oil
- Polished matte finish maintains clean appearance throughout operation
- 303 stainless steel output shafts



## EXTREME WASHDOWN-DUTY SOLUTIONS

### STAINLESS STEEL PROVIDES THE HIGHEST RESILIENCE IN HARSH WASHDOWN APPLICATIONS

#### Bauer Gear Motor

##### HiflexDRIVE - Stainless Steel Helical Bevel Gear Motors



The HiflexDRIVE is an advanced design for Bauer BK04, BK08 and BK17 bevel gear models.

The stainless steel design eliminates hygiene risks caused by damage as a result of impact or long-term use in intensive cleaning areas and is particularly resistant to mechanical influences.

- Asynchronous and PMSM motors can be fitted
- Hollow shafts in various standard diameters
- Standard design with C-Flange
- Optional A-Flange available
- Flexible shaft diameter
- All standard shaft types
- No interference contours
- Optional integral brake/encoder available

#### Boston Gear

##### Stainless Steel AC Motors



Boston Gear stainless steel AC motors feature 300 Series stainless steel housings, end bells, output shafts and conduit boxes.

- 1/3 HP to 10 HP models
- IP69K Certified
- NEMA C-Face and in rigid base models
- TEFC (Totally Enclosed Fan Cooled)
- 303 stainless steel
- O-Rings between end bells and housing

#### Huco

##### Stainless Steel Air Motors



Huco energy-saving stainless steel air motors are designed to provide reliable performance in harsh washdown food and beverage processing applications.

- Corrosion-resistant stainless steel housings
- Speed range up to 800 RPM
- Torque range up to 87 in.lb.
- Instant stop-start
- Controllable speed & torque
- Max torque at start





## EXTREME WASHDOWN-DUTY SOLUTIONS

### STAINLESS STEEL PROVIDES THE HIGHEST RESILIENCE IN HARSH WASHDOWN APPLICATIONS

#### Boston Gear

##### Stainless Steel Mounted Bearings



Stainless Steel Mounted Bearings are designed to maximize life and minimize corrosion in washdown environments. 2-Bolt pillow blocks and 2-, 3- and 4-bolt flanged units are offered.

- Cast stainless steel housings
- Synthetic lip seal with stainless steel flinger provides superior protection for high pressure washdown conditions
- Pre-filled with NSF H1 food grade grease
- Laser marked

#### Boston Gear

##### SSFC Series Stainless Steel Couplings



SSFC Series Insert (3-Jaw) Type Couplings are made of 316 Stainless Steel and are available with precision machined bored or solid hubs. Three types of inserts are offered.

- 316 stainless steel construction with passivated finish
- No lubrication needed
- Stocked bores complete with keyway and stainless set screw

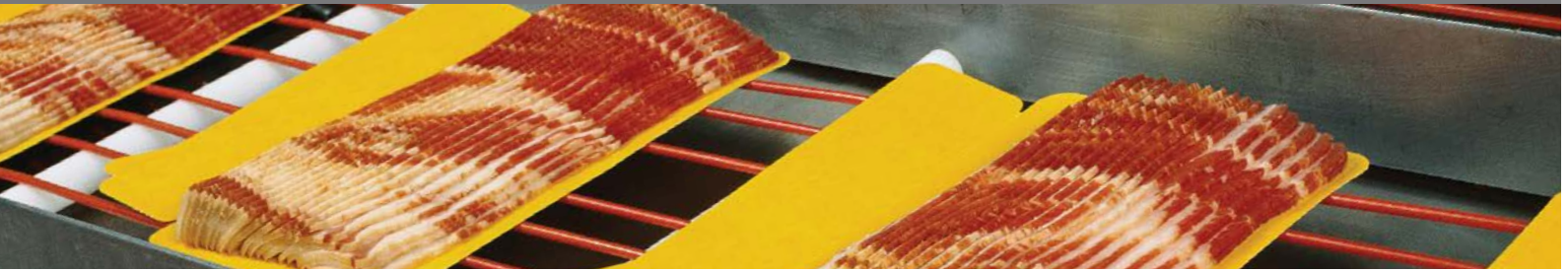
#### Boston Gear

##### Micron AquaTRUE Stainless Steel Gearheads



AquaTRUE gearheads meet the strict requirements of harsh environmental applications. IP66/IP67 and IP69K protection handles caustic, high pressure washdowns. The 304 rounded stainless steel housing eliminates rust and corrosion.

- 304 stainless steel rounded housing
- Precision: 13 arc-minutes
- Torque capacity: up to 876 Nm
- Ratio availability: 3:1 thru 100:1
- Radial load capacity: up to 3730 N
- NSF/ANSI 169 certified



## EXTREME WASHDOWN-DUTY SOLUTIONS

### STAINLESS STEEL PROVIDES THE HIGHEST RESILIENCE IN HARSH WASHDOWN APPLICATIONS



#### Kilian

##### Stainless Steel Bearings

Unique stainless steel bearings withstand tough, corrosive conditions for extended service life in food processing, beverage and packaging equipment.

- Variety of stainless steel materials
- Value-engineered designs incorporate features such as seals, polymer components, spacers and shafts into assemblies



#### Boston Gear

##### JS Series Stainless Steel U-Joints

These stainless steel pin and block type universal joints are designed for connecting shafts at angles up to 30 degrees and speeds up to 2000 RPM.

- Precision machined bore or solid hubs
- Joint covers keep dirt/moisture out and lubricant in



#### Boston Gear

##### SSC Series Stainless Steel Shaft Collars

Non-Magnetic suitable for temperatures up to 800°F. Ideal for applications requiring hygienic cleanliness.

- Bore sizes from 1/8" to 3"
- Hollow point set screws
- Setscrew, 1-piece clamp & 2-piece clamp styles for locking



#### Huco

##### Precision Couplings

Huco precision stainless steel bellows and multi beam couplings and aluminum disc style couplings are utilized in a wide range of food processing and beverage applications.

- Three types of bellow couplings offer differing combinations of stiffness, radial compensation and axial motion. Torque capacity: up to 876 Nm
- Single-piece, zero backlash multi beam couplings are available in single stage (3-beam) or two stage (6-beam).



## EXTREME WASHDOWN-DUTY SOLUTIONS

### ASEPTIC DESIGNS PROVIDE THE HIGHEST HYGIENIC SAFETY

An AsepticDRIVE is an asynchronous motor whose basic design dispenses heat with a fan and cooling ribs. The result is a motor with a completely smooth outer casing which is sealed by a matching non-drive end shield.

The AsepticDRIVE has a standard stainless steel round connector which allows for a quick and simple electrical connection of the motor. This connector contains not only the motor contacts but also those of the thermistors. The hygienic concept is also guaranteed due to the smooth surface of the connector.

The AsepticDRIVE can be easily fitted onto any gear in the BG, BF or BK series.



#### Bauer Gear Motor

#### HiflexDRIVE - Aseptic Right Angle Helical Bevel Geared Motors

The aseptic design of the HiflexDRIVE combines the benefits of the AsepticDRIVE with Bauer's permanent-magnet synchronous motor technology. These motors are perfectly suited for use in areas which require high levels of hygiene, where a consistent torque and low overhead height are required.

- Special design for BK04, BK08, BK17 models
- Aseptic acid and alkali resistant paint (pH2 - pH12)
- Asynchronous and PMSM motors can be fitted
- Hollow shafts in various standard diameters
- Standard design with C-Flange
- Optional A-Flange available
- Optional integral brake/encoder
- No interference contours



#### Bauer Gear Motor

#### BK Series - Aseptic Right Angle Worm Geared Motors

These aseptic geared motors provide excellent hygiene with their smooth, water-resistant, easy-clean surfaces.

Units feature a high degree of protection (IP67 and IP69K) with special coating as standard. Models are completely enclosed, sealed against dust and water spray.

The motor design takes into account the high hygienic requirements, with no cooling fins or fans, preventing air turbulence and subsequent reinfection.

- Motor power from 0.55 kW to 3.0 kW
- 10 gearbox sizes for torques from 80 Nm to 18500 Nm
- Output speeds 0.2 - 280 min-1
- High efficiency through 2 stage base design
- Aseptic acid and alkali resistant paint (pH2 - pH12)
- Easy-access lube port





## EXTREME WASHDOWN-DUTY SOLUTIONS

### ASEPTIC DESIGNS PROVIDE THE HIGHEST HYGIENIC SAFETY



#### Bauer Gear Motor

##### BG Series - Aseptic Inline Helical Geared Motors

Aseptic geared motors provide excellent hygiene with their smooth, water-resistant, easy-clean surfaces.

Units feature a high degree of protection (IP67 and IP69K) with special coating as standard. Models are completely enclosed, sealed against dust and water spray.

The motor design takes into account the high hygienic requirements, with no cooling fins or fans, preventing air turbulence and subsequent re-infection.

- Motor power from 0.55 kW to 3.0 kW
- 13 gearbox sizes for torques from 20 Nm to 18500 Nm
- Output speeds 0.3 - 450 min<sup>-1</sup>
- Aseptic acid and alkali resistant paint (pH2 - pH12)
- Paint finish according to RAL tables
- Non-vented motor housing
- Plug-in motor connection
- Optional integral brake/encoder



#### Bauer Gear Motor

##### BF Series - Aseptic Helical Parallel Shaft Geared Motors

The CleanDRIVE motors boast impressive alkali- and acid-resistant coating as standard and are used in wet areas with low hygienic requirements.

- Motor power from 0.55 kW to 3.0 kW
- 10 gearbox sizes for torques from 90 Nm to 18500 Nm
- Gearbox housing with integral torque arm
- High efficiency through 2-stage base design
- Optional integral brake/encoder



## MODERATE TO LIGHT WASHDOWN-DUTY SOLUTIONS

### UNIQUE BOST-KLEEN™ TREATMENT DOES NOT CHIP, FLAKE OR RUST

Together with a team of chemists, Boston Gear has developed Bost-Kleen, a world-class washdown-duty treatment that can withstand both high pressure and caustic washdown environments, all without chipping, flaking or rusting. The epoxy coating is available in white Bost-Kleen (BK) or Stainless Bost-Kleen (SBK).

The secret to the Bost-Kleen system lies in the epoxies and curing agents as well as the process to apply them. Utilizing Bisphenol-F type epoxy, a much higher level of corrosion resistance can be obtained due to the intensity of the chemical reactions and the resulting strength of the cross links with the curing agents.

#### Boston Gear

##### BK/SBK 700 Series Worm Gear Speed Reducers



The 700 Series is the heart of Boston Gear's speed reducer product line, serving the industry reliably for over 40 years.

Units are available with white Bost-Kleen (BK) or Stainless Bost-Kleen (SBK) coatings.

- 11 basic single reduction sizes
- 8 basic double reduction sizes
- 5:1 - 100:1 ratios single reduction
- 100:1 - 3600:1 ratios double reduction
- Stainless steel external hardware
- 303 stainless steel output shafts
- Can be provided pre-lubricated from factory with H1 rated food-grade lubricant Klubersynth UH1 6-460
- BISSC Certified
- Washable & scrubbable

#### Boston Gear

##### BK/SBK 800 Series Helical Inline Speed Reducers



The Boston Gear 800 Series is a focused selection of compact, heavy duty helical gear drives that offer long-life performance and simplified maintenance.

Units are available with white Bost-Kleen (BK) or Stainless Bost-Kleen (SBK) coatings.

- Four basic sizes 1/6 - 10 HP
- Over 40 different ratios:
  - 1.5:1 - 71:1 double-reduction ratios
  - 36:1 - 250:1 triple-reduction ratios
- Output-shaft dia. from 3/4" to 1 5/8"
- Non-flanged and NEMA C-face input styles
- Base-mount and output flange-mount models available



## MODERATE TO LIGHT WASHDOWN-DUTY SOLUTIONS



### Warner Electric

#### EP-W

#### Washdown Electro Packs

Washdown Electro Pack clutch/brakes are designed specifically for use in food, sanitary or any other washdown application. These packaged clutch/brakes are totally enclosed in smooth, completely sealed, rugged enclosures. All units are factory aligned, assembled and burnished for consistent out-of-the-box performance.

- USDA-approved coating
- Smooth exterior - easy washdown
- Sealed/shielded bearings
- Stainless steel shafts and hardware
- Available in 70 and 270 lb.in. static torque configurations



### Warner Electric

#### EUM-W

#### Washdown Enclosed UniModules

Whether you clean your equipment with air, water, or a mild solution, these one-piece, pre-assembled clutch/brakes units can weather the storm. The Enclosed UniModule Washdown Series (EUM-W) represents the latest in clean, quiet, motion control technology, with sealed enclosures to keep wear particles in and contaminants out.

- 5 models with torque ranges from 16 to 95 lb.ft.
- USDA-approved coating
- Stainless steel shafts
- Superior sealing (gaskets and plugs)
- Smooth exterior - easy washdown
- Corrosion-resistant hardware
- Sealed/shielded bearings
- Baffled ventilation system
- IP65 compliant



### Boston Gear

#### Centric PDC Series

#### Pneumatic Disconnect Clutches

The PDC clutch is a "true disconnect" clutch that offers a complete torque disconnect when the air pressure is locked out. Centric PDC Series units are ball detent, air-actuated devices suitable for mild washdown applications. They are designed to provide accurate, dependable torque overload protection for mechanical power transmission equipment. Units are capable of providing remote disconnection when the air supply is removed.

- Two sizes
- Torque range 300 to 4,000 lb. inch
- Bore sizes 3/4" to 1-3/4"
- Ball detent design
- Single-position automatic detent design
- Bi-directional operation
- Completely sealed
- Electroless nickel plated
- Stainless steel hardware





## MODERATE TO LIGHT WASHDOWN-DUTY SOLUTIONS



### Kilian

#### No-Rust Bearings

These bearings combine corrosion-proof components for extended life in washdown environments. Thermoplastic housings and stainless steel bearings stand up to a wide range of corrosives and contaminants, including acids, alkalis, solvents, detergents and oils.

- Advanced polymer housings
- 303 stainless steel bearing inserts
- Solid base housings prevent any collection of bacteria
- Withstands steam and continuous temperatures up to 250°F (and brief exposure up to 320°F)



### Huco

#### Acetal Air Motors

These highly efficient, energy-saving air motors are ideal for use in light washdown food processing and packaging applications.

- Corrosion-resistant housings
- Speed range up to 800 RPM
- Torque range up to 87 in.lb.
- Instant stop-start
- Controllable speed & torque
- Max torque at start



### Formsprag Clutch

#### FSO Series & HPI Series

#### Overrunning, Indexing, Backstopping Clutches

FSO & HPI clutches are suitable for overrunning, backstopping and light to medium-duty indexing functionality in food and beverage applications. Units feature FDA-approved food grade greases and a variety of surface coatings required for washdown duty.

- All models contain Formchrome® sprags and Formsprag "Free-action" retainers
- 11 different sizes
- Torque range: 275 to 27,000 lb. ft.
- Bore range: 0.5 to 7.0 in.
- Speed range: 0 to 3,600 RPM



### Stieber

#### Type CSK & CSK..2RS

#### Overrunning, Indexing, Backstopping Clutches

Type CSK is a sprag-type freewheel integrated into a 62 series ball bearing (except sizes 8 and 40). It is bearing supported and protected against dust of more than 0.3 mm. "Nylons" type seals are recommended for temperatures exceeding 122°F. Units are often used in dairy and candy/confectionary equipment.

- All models contain Formchrome® sprags and Formsprag "Free-action" retainers
- Torque range: 2.5 - 325 Nm
- Grease lubricated; oil bath available
- Various food-grade grease options available on request



## STANDARD-DUTY SOLUTIONS

In areas of a plant where there is no contact with open product flow or where drivetrains are enclosed within machinery, the hygiene requirements are typically less strict, allowing for standard finish drive products. Example applications include cookie and tempura batter mixers, potato and onion bin dumpers and some poultry processing equipment.

### Bauer Gear Motor

#### HiflexDRIVE - Standard Right Angle Helical Bevel Geared Motors



Compact, efficient HiflexDRIVE geared motors fit in all types of conveyor applications.

The energy-efficient combination of BK17 gearing and permanent magnet synchronous motors (PMSM) allows the unit to maintain constant speed independent of the load. PMS motors are perfectly suitable as drives for applications with constant torque such as conveyor systems.

- PSM Technology provides over 30% energy saving under partial load
- Torque: 80 upto 330 Nm
- Ratio 4.54 ... 108.6 :1
- Easy handling and space saving installation
- CE-Mark
- CSA, UL, ATEX, GOST, CCC, ISO9001, ISO14001, OHSAS18001 compliant
- Motors according to EN 60034

### Bauer Gear Motor

#### BK Series Right Angle Worm Geared Motors



BK geared motor sets new standards for reliability, efficiency and economy and includes unparalleled standard features including hollow shafts in the smallest sizes. An inverter friendly design provides for easy integration. Enhanced flexibility is achieved with shaft, base, face, and flange mounting options.

Dust-tight and hose-proof IP65 rating per IEC 529 ensures performance in wet and dusty environments without the use of additional enclosures.

- Motor power from 0.03 kW to 75 kW
- 10 gearbox sizes for torques from 80 Nm to 18,500 Nm
- Output speeds 0.2 - 280 min-1
- High efficiency through 2 stage base design
- CSA, UL, ATEX, GOST, CCC, ISO9001, ISO14001, OHSAS18001 compliant



## STANDARD-DUTY SOLUTIONS



### **Bauer Gear Motor**

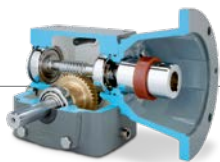
#### **BG Series Inline Helical Geared Motors**

Economical BG geared motors are available with inch or metric dimensioned output shafts for easy, flexible application integration.

The motor terminal box can be mounted in four 90° step positions around the motor frame providing for additional installation flexibility.

Units are completely enclosed and sealed against dust and water spray.

- Motor power from 0.03 kW to 75 kW
- 13 gearbox sizes for torques from 20 Nm to 18,500 Nm
- Output speeds 0.3 - 450 min<sup>-1</sup>
- Plug-in motor connection
- Enclosure IP65 (Standard), IP66 (Optional)
- Optional integral brake/encoder
- CSA, UL, ATEX, GOST, CCC, ISO9001, ISO14001, OHSAS18001 compliant



### **Boston Gear**

#### **QC700 Series Coupling Style Worm Gear Speed Reducers**

Developed for food processing applications, these washdown-friendly NEMA coupling-mount units offer extremely fast motor-reducer assembly. Models feature a completely self-aligning coupling that eliminates the need for a slot in the flange.

- Elimination of alignment hole prevents debris and bacteria buildup
- Available in sizes 710 to 738
- The QC flange completely encloses the high speed seal, preventing dirt from accumulating under the seal lip and accelerating seal/shaft wear.





## BOTTLING & CAPPING SOLUTIONS

### Warner Electric

#### Magnetic Capping Headsets and Chucks



Warner Electric magnetic headsets feature proprietary Smooth Torque Technology that provides less shock on the capping system than most competitor OEM headsets that have two opposing magnets causing pulsating torque.

The undesirable pounding effect of a pulsating clutch often causes over-tightened caps resulting in wasted product.

Smooth Torque Technology eliminates over tightened caps, yielding a major reduction in variation of removal torque

#### Engineered Cap Chuck Solutions

Warner Electric corrosion resistant stainless steel chucks are engineered to fit specific cap profiles with a unique pin designed for better cap gripping.

We routinely design quality chucks for challenging low profile cap applications.

#### Headsets

- 100% Interchangeable with major OEM headsets - no machine modification required. (Alcoa [CSI], Zalkin, Arol, Fowler, Fogg, Federal, AMCO, Krones, KHS, Portola and others)
- Improved Efficiency - smooth torque provides less variation in removal torque, improving end product quality & consistency
- Lower operating costs - lower costs for new units & product design enables longer operating life than OEM headsets, enabling lower rebuild costs with fewer rebuilds
- Easy to set-up & maintain - visual setting scales for top load force and application torque

#### Chucks

- Manufactured to be 100% interchangeable with existing OEM chucks
- Unique cap chuck pin designed for better cap gripping
- Competitively priced and short lead times

### Boston Gear

#### Centric HOR Series Washdown Overload Clutches



Centric HOR overload clutch provides torque protection from bottle and can filling, capping and labeling mis-feeds which can cause damage to a starwheel or carousel drive mechanism. The damage often leads to unplanned expenses due to downtime and unscheduled maintenance. HOR clutches limit torque to a preset level and provide the rotational timing necessary for these types of applications while extending machine life, reducing maintenance costs and increasing productivity.

- Six different sizes
- Torque range: 25 to 50,000 lb.in.
- Bore sizes: 7/16" to 3-5/8"
- Ball dented design
- Bi-directional operation
- Automatic reset
- Electroless nickel finish
- Stainless steel hardware
- Fully sealed

## A Global Footprint to Support Customers Around the World

★ Altra Headquarters

● Altra Engineering & Service Centers

● Altra Manufacturing Facilities

## The Brands of Altra Motion

### Couplings

**Ameridrives**  
www.ameridrives.com

**Bibby Turboflex**  
www.bibbyturboflex.com

**Guardian Couplings**  
www.guardiancouplings.com

**Huco**  
www.huco.com

**Lamiflex Couplings**  
www.lamiflexcouplings.com

**Stromag**  
www.stromag.com

**TB Wood's**  
www.tbwoods.com

### Linear Systems

**Thomson**  
www.thomsonlinear.com

### Geared Cam Limit Switches

**Stromag**  
www.stromag.com

### Engineered Bearing Assemblies

**Kilian**  
www.kilianbearings.com

### Electric Clutches & Brakes

**Matrix**  
www.matrix-international.com

**Stromag**  
www.stromag.com

**Warner Electric**  
www.warnerelectric.com

### Belted Drives

**TB Wood's**  
www.tbwoods.com

### Heavy Duty Clutches & Brakes

**Twiflex**  
www.twiflex.com

**Stromag**  
www.stromag.com

**Svendborg Brakes**  
www.svendborg-brakes.com

**Wichita Clutch**  
www.wichitaclutch.com

### Gearing & Specialty Components

**Bauer Gear Motor**  
www.bauergears.com

**Boston Gear**  
www.bostongear.com

**Delevan**  
www.delevan.com

**Delroyd Worm Gear**  
www.delroyd.com

**Nuttall Gear**  
www.nuttallgear.com

### Engine Braking Systems

**Jacobs Vehicle Systems**  
www.jacobsvehiclesystems.com

### Precision Motors & Automation

**Kollmorgen**  
www.kollmorgen.com

### Miniature Motors

**Portescap**  
www.portescap.com

### Overrunning Clutches

**Formsprag Clutch**  
www.formsprag.com

**Marland Clutch**  
www.marland.com

**Stieber**  
www.stieberclutch.com



www.altramotion.com