

Ameridrives

Bauer Gear Motor

Bibby Turboflex

Boston Gear

Delroyd Worm Gear

Formsprag Clutch

Guardian Couplings

Huco

Industrial Clutch

Inertia Dynamics

Kilian

Lamiflex Couplings

Marland Clutch

Matrix

Nuttall Gear

Stieber Clutch

Stromag

Svendborg Brakes

TB Wood's

Twiflex

Warner Electric

Warner Linear

Wichita Clutch

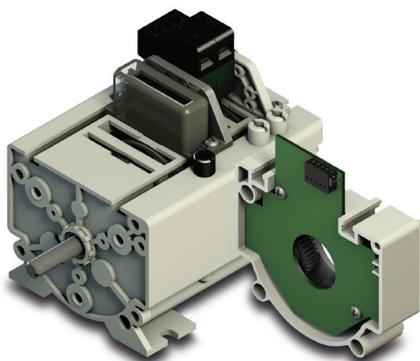
# Ensemble Performance



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*Individually, the brands within Altra Industrial Motion Corporation produce some of the world's most capable, efficient and reliable mechanical components. Together, the possibilities for stage designers are limited only by the imagination.*

When the set is one of the production's stars, designers need mechanical "actors" they can rely upon. Modern theater productions are taking performance to new heights, with complex, tightly coordinated mechanical motion an intrinsic part of the audience experience.

The unique challenges of theatrical automation require components to integrate seamlessly to create a smooth, silent and totally reliable experience. Altra's engineers are able to benefit from the expertise of various specialized brands to develop complete systems that are designed for the theater. It is the breadth and depth of the group's offerings that is helping set designers to surprise and delight their audiences with unprecedented scale and sophistication.

## Unparalleled Precision

When human actors work in close proximity to moving loads, it is vital that motion stops in precisely the right position – every time. Geared cam limit switches from Stromag perform this role every day in many of the world's largest and most famous theaters and TV studios.

The company's Series 51 range is based on a unique planetary gear design that can map a wide range of shaft rotations to the angular displacements of the installed cam discs. They provide an ideal solution in applications where angles or distances cannot be directly limited by switchgear, but must be determined by the rotation of a shaft. Meeting the highest industry standards, the modular design, wide range of possible gear ratios (from 4.1 to 16,000 turns) and simple, precise adjustment make these units appropriate for numerous applications including hoists and spindle lifts.

## Enhanced Efficiency

Control of energy consumption is an increasing priority in theater applications. Components that deliver power more efficiently don't just cut energy costs and reduce environmental impact, they also generate less heat, simplifying equipment packaging and improving long-term reliability.

Over the past 90 years, Bauer Gear Motor has become the preferred international provider of high-quality, reliable geared motors. The company's latest offerings make use of a range of technically advanced solutions using high-efficiency permanent-magnet motors and optimized gearbox designs.

## Complete Control

To bring heavy and fast-moving loads to a controlled stop, theatrical automation systems require effective, quiet brakes. A longstanding specialist in the design and manufacture of spring actuated, electrically released brakes for a wide range of industrial applications, Warner Electric has developed a specialized range of products offering braking torques of 5 to 5,000 Nm to suit the specific requirements of stage applications.

These products offer exceptionally low noise emissions, below 50 dB(A), and constant torque levels throughout the lifecycle of the brake. They can be optimized for high-speed, high-torque applications or to deliver maximum torque in a small installation envelope. Optional additional features include manual release, release monitoring and various, hub, cover and connector configurations. Warner brakes use a modular design and can be configured as single or double circuit designs, or in multiple magnet arrangements.

## Total Support

To bring all the parts together, Altra Industrial Motion offers customers comprehensive engineering and development support. Altra engineers work with TV and theater industry clients right from the initial concept stage, providing a one-stop shop for the design, engineering, delivery and ongoing support of the complete automation system.

Specifying each component from a single source saves time, reduces risk, and ensures each customer receives a solution tailored to the exact needs of their application. Products and systems are designed to comply with the most recent regulations and directives, including BGV C1, DIN 56950-1; DGUV Vorschrift 17 and EN81-20/50. And, because the modern theater is a fast moving and global business, Altra backs up its engineering expertise with fast, flexible delivery and worldwide service and support. With Altra Industrial Motion working behind the scenes, you can afford to relax and enjoy the performance.



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## About Altra Industrial Motion

Altra is a leading global designer and manufacturer of quality power transmission and motion control products utilized on a wide variety of industrial drivetrain applications. Altra clutches and brakes, couplings, gearing and PT component product lines are marketed under the industries' most well known manufacturing brands. Each brand is committed to the guiding principles of operational excellence, continuous improvement and customer satisfaction. Highly engineered Altra solutions are sold in over 70 countries and utilized in a variety of major industrial markets, including food processing, material handling, packaging machinery, mining, energy, automotive, primary metals, turf and garden and many others.

Altra's leading brands include Ameridrives, Bauer Gear Motor, Bibby Turboflex, Boston Gear, Delroyd Worm Gear, Formsprag Clutch, Guardian Couplings, Huco, Industrial Clutch, Inertia Dynamics, Kilian, Lamiflex Couplings, Marland Clutch, Matrix, Nuttall Gear, Stieber Clutch, Stromag, Svendborg Brakes, TB Wood's, Twiflex, Warner Electric, Warner Linear and Wichita Clutch.



449 Gardner Street  
South Beloit, IL 61080  
815-389-3771  
815-389-2582 (fax)  
[www.AltraMotion.com](http://www.AltraMotion.com)

For a complete list of our  
global sales offices visit:  
[altramotion.com/contactus](http://altramotion.com/contactus)