

Ameridrives Couplings

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 Limited

Warner Electric

Warner Linear

Wichita Clutch

Stop Light – Powerful Braking Performance in a Lightweight Package



An Altra Industrial Motion Company

XS Brakes Offer Quiet, Powerful Braking Performance in a Compact, Lightweight Package



One of the first customer applications for the new XS Series brakes was in the actuators used on a range of first- and business-class seats for a major global aerospace OEM.



The most powerful XS brake in the series delivers a holding torque of 0.5Nm in a package weighing only 100g.

The XS-Series of spring-actuated, electrically released brakes from Warner Electric — part of the Altra Industrial Motion Corporation — has been developed specifically to meet stringent space and weight requirements, providing reliable braking performance in a package weighing as little as 27g. Designed as statically engaged holding brakes, the XS units can also be used to stop a moving load in exceptional situations.

The latest innovation from Warner Electric is designed to operate with actuators that spend most of their time stationary. The actuator is designed to move a load into the desired position, and then hold it there while the product or machine performs its role. Typical applications for this type of motion control include the position adjustment systems used in seats or medical equipment.

In systems like these, it is essential that the actuator can maintain its fixed position, regardless of changes in the applied load or interruptions to the power supply. That calls for a mechanical brake. Since these applications often have extremely stringent weight, space and cost constraints, that brake needs to be a highly specialized design.

Where minimum size and weight is a priority, equipment manufacturers need a brake that precisely matches the requirements of their applications, and which can be easily integrated into their overall design. To facilitate this, XS brakes are available in six sizes with overall diameters of 22mm, 29mm and 33mm. Each diameter includes a variant optimized for the shortest overall length and minimum weight, together with a slightly longer version optimized for greater torque. The most powerful unit in the series delivers a holding torque of 0.5Nm in a package weighing only 100g. The three brake diameters are designed to accommodate maximum shaft diameters of 3.5mm, 4.5mm and 6mm respectively.

To maximize mounting flexibility, XS brakes are supplied with a custom-designed mounting plate tailored to the needs of the end-user's application. The actuating coil is designed to operate via a 24V DC power supply as standard, with other voltage options available to suit end application requirements. Operation of the brakes requires as little as 3W of power for the smallest units and only 7W for the largest. Thanks to Warner's investment in highly flexible, lean manufacturing operations, custom brakes can be manufactured with short lead times in volumes that suit customer requirements.

One of the first customer applications for the new XS Series brakes was in the actuators used on a range of first- and business-class seats for a major global aerospace OEM. In addition to extremely stringent space and weight requirements, the customer also wanted exceptionally quiet operation. Its seat specification called for a brake whose characteristics were perfectly aligned with the model XSB29 brake.

Working closely with the customer during its seat development and test program, Warner Electric's engineering team was able to provide an XS brake that met or exceeded all the application requirements. Moreover, the design was more cost-effective than competing permanent magnet brake designs.



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About Altra Industrial Motion

Altra Industrial Motion (NASDAQ:AIMC) is a leading multi-national designer, producer and marketer of a wide range of electromechanical power transmission products. The company brings together strong brands covering over 40 product lines with production facilities in nine countries.

Altra's leading brands include Ameridrives Couplings, 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 Limited, Warner Electric, Warner Linear and Wichita Clutch. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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