

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

Ameridrives Couplings

Inertia Dynamics

Matrix International

Huco Dynatork

Bibby Turboflex

Twiflex Limited

Kilian Manufacturing

Lamiflex Couplings

Ameridrives Power
Transmission

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A Driving Force

by Paul Moore
Editor, International Mining



Under Altra Industrial Motion ownership, Bauer is expanding rapidly in China with a new manufacturing plant.

Altra Holdings subsidiary, Altra Industrial Motion, has acquired 85% of privately held Lamiflex do Brasil Equipamentos. Lamiflex is the premier Brazilian manufacturer of high-speed disc couplings, providing engineered solutions to a variety of industries, including metals and mining. The Lamiflex acquisition is part of Altra's plan to acquire assets in key strategic regions which offer significant long-term growth profiles. "Expanding our reach in emerging geographies is a key component of Altra's strategic plan, and the acquisition of Lamiflex provides us with an important growth platform in Brazil," said Carl Christenson, Altra's President and CEO. "Lamiflex is a well-known supplier of high-quality coupling products to the Brazilian marketplace. The acquisition will provide Lamiflex with the resources required to continue its growth initiatives while, over time, serving as a launching platform for several other Altra businesses."

Altra Industrial Motion is also building on its acquisition of Germany's Bauer Gear Motor with new investment and a new global support network. Karl-Peter Simon, Managing Director of Bauer and Senior Vice President of Geared Motors for Altra, explains Bauer's plans: "The first major public step in our current business expansion plan was taken on March 7 when we opened a new assembly plant in China. Contrary to current trends, the facility was established to provide local availability to customers already operating in China and develop local business, not, as other manufacturers have done, to seek a low-cost manufacturing base to import products back into Europe. Since building the world's first commercially available range of gear motors Bauer has been recognized as a pioneer in the technology. In recent years there has been a focus on improving energy efficiency with the use of standard inverters and the development of a completely new permanent magnetic motor range in order to achieve premium operational efficiencies. Energy efficiency and long maintenance life, increasing OEE are the main drivers for us, beyond global availability and support."

He continues: "Under Altra's stewardship we now find ourselves in a position where we can look at the emerging markets, especially the BRIC countries, and grow our global presence. With this goal in mind the opening of our new facilities in China was the first natural step. China is currently the fastest growing economy in the world, and with its recent announcement of a five year plan that connects its growth to increased efficiency, our products now have an even more

relevant position in this market. While other manufacturers move to China in order to reduce the production costs on the products they sell to Europe, we have moved to China to support our existing business there and to create the foundations required to develop new business for the local Chinese market. The plant will assemble and stock our key products which will reduce lead times on new motors and replacement parts significantly. This means we can offer the same levels of Bauer quality and support in Asia that is enjoyed by our European customers.”

Dragline brake solutions

Altra Industrial Motion company Twiflex recently supplied Caterpillar with brakes for their largest dragline, the 8750, which weighs over 6,800 t, has a rated suspended load of 324,322 kg and bucket capacity of 106 m³. The machines were for BMA’s Peak Downs mine in Australia and Twiflex caliper brakes were specified for the hoist, drag, swing and propel motions.

The company has now supplied brakes for the AC draglines at Lake Lindsay in Australia (and TAU in Canada) as well as undertaking retrofits on Marion and Bucyrus 1370, 8050 and 8200 drag-and-hoist; 8250 drag, swing-and-propel; 8750 swing-and-propel; and 2750 hoist-and-drag machines. Early in 2012, Twiflex worked with Caterpillar on an 8200 AC dragline for Reliance in India, which is scheduled to commence operation towards the end of 2013.

Draglines use both multi-disc and caliper brakes. Both perform the same function, to stop the load from moving as quickly as possible, and bring it to rest in a controlled manner to avoid shocking the drive train and machine frame, but they offer different benefits. The brakes must be able to handle the high energy associated with stopping these massive loads.

Twiflex’s GMR-SD caliper is its most popular model for draglines and consists of a cast frame with two pivot-mounted arms which are actuated by a spring applied, air released thruster. Commonly used ratings are 19.5 kN, 30 kN and 36 kN braking force. Depending on the peak disc

temperature calculated, the calipers can be fitted with either organic or sintered bronze pads which are suitable for emergency stops.

Another player in the dragline brakes market is Industrial Clutch, also part of the Altra Industrial Motion group. It has been selling brakes to Caterpillar (formally Bucyrus) and Joy Global/P&H since the 1980s. Industrial Clutch supplies a version of their LKB Spring Set (air or hydraulic release) brakes which are designed to cope with high-energy stops and are sized to OEM specifications. Extensive field experience has demonstrated a correctly sized dragline brake may last four to five years before requiring a rebuild or lining replacement.

Over the past 30 years, Industrial Clutch has converted more than 40 draglines to LKB units, many featuring older “clamshell”-style brakes. Its current brakes incorporate wear and release-indication systems and induction-hardened splines on the hub. Standard LKB units are available with static torque ratings up to 154 kNm (1,360,000 lbf in).



Industrial Clutch LKB brake on a dragline

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 Boston Gear, Warner Electric, TB Wood's, Formsprag Clutch, Wichita Clutch, Industrial Clutch, Ameridrives Couplings, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Bauer Gear Motor, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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