

# AllTorque

The very latest from Twiflex and Wichita Clutch

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Bibby Torque Protection  
For Power Station Furnace  
Conveyors



Turning, Locking & Braking Systems



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the interactive version of  
the AllTorque

## Twiflex Innovation

**Freedom Tower Elevator  
Drives Assisted By Twiflex**

**VKSD Disc Brake Caliper**



## Turning, Locking and Braking Innovation

A great example of a unique product created within the Altra Industrial Motion Corp., the Turning, Locking and Braking (TLB) system is an example of cross divisional cooperation between companies. The result is a versatile product at a competitive price.

The Twiflex system comprises a Turning gear, Locking device, and shaft Brake, together with a power unit and a control panel for local operation of the system close to the equipment. The TLB can be used for continuous turning or as an indexing system, using a simple hydraulic 'push-pull' arrangement with the brakes and brake disc to inch the propeller shaft for maintenance and accurate alignment.

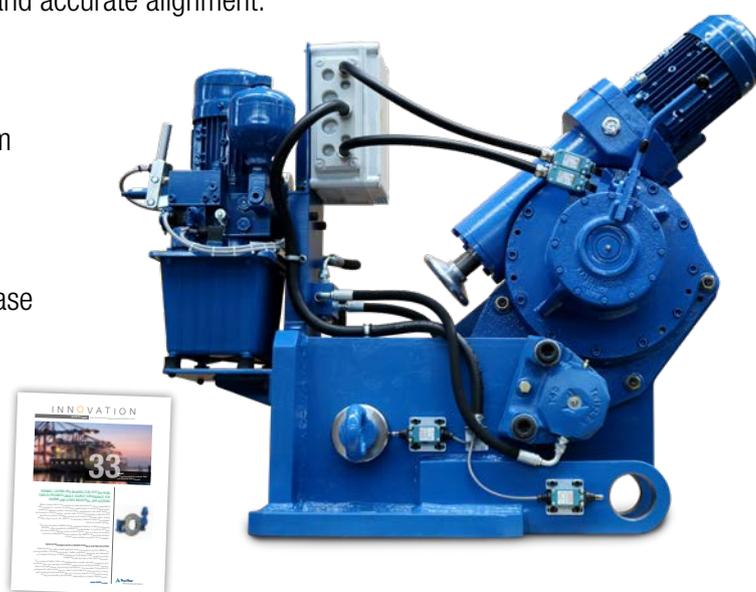


Turning, Locking & Braking Systems  
by Twiflex

### Benefits of a Complete Integrated System

When purchasing a complete turning gear system integrated with locking and braking from Altra, customers can consolidate 3 separate interfaces into one multi-functional solution, which enables customers to save dimensional space and decrease installation and maintenance time, resulting in reduced costs and streamlining the sourcing and procurement process as well.

**For more information, download P-8398-TF from [www.AltraLiterature.com](http://www.AltraLiterature.com)**



## Factory Refurbishment in Bedford

Twiflex is in the process of refurbishing the factory in Bedford, England. Wichita consolidated manufacturing operations with Twiflex in 2010, combining both brands under the Altra Industrial Motion umbrella.

The building itself is a hundred years old and has been in continuous use as a manufacturing facility. The refurbishment plan is tailored to modernize both the manufacturing and office space so they can be maximized for more efficient operations. Extensive preparations were needed before work could even begin: wiring, gas, water and air supplies had to be moved; office staff relocated into temporary workspaces; and new methods found to handle decades of archives, files, parts and machinery. A tricky task considering the age and construction of the building.

Redesigning these areas affords Twiflex a great opportunity to rejuvenate workspaces and increase manufacturing capacity. The office layout is changing to afford a more practical interaction between the different departments. For example, with the engineering department placed close to the customer services teams, production and shipping, the flow of information will be much easier. This approach is in line with a lean philosophy and Altra's program of continuous improvement.

Once completed the Bedford site will look and feel like a new factory, and will help us move forward for the next one hundred years. See the artist rendering of the finished product.



## Dredging Vessel Supported With Hard-Wearing Solution From Wichita Clutch



When a leading dredging owner/operator needed to replace a competitor-supplied clutch/coupling combination on one of its fleet of Trailing Suction Hopper Dredgers, they turned to Wichita Clutch for a high-tech solution.

Upon consultation, Wichita engineers selected the new sintered metallic friction variant of the tried and tested MSV clutch. The pneumatically actuated clutch, positioned between the forward end of the main propulsion diesel engine and input shaft to the dredge pump gearbox, was configured to connect with the existing flexible coupling and designed to “drop-in” to the existing space to avoid expensive re-engineering costs.

The use of sintered metallic friction linings provides the perfect solution for high-speed engagement of the high-inertia systems associated with the large-capacity centrifugal pump drives found on these specialised vessels. Compared to more traditional, organic friction materials found on competitor components, Wichita’s solution provides outstanding lifetime performance. Additionally, when the time does eventually

come for friction pad replacement, the unique segmented design will allow for complete pad change to be achieved in a fraction of the time normally associated with more traditional clutch designs.

The level of engineering and bespoke service offered by Wichita is possible thanks to the expertise and commitment within the Altra Industrial Motion Corporation and perfectly reflects the group philosophy. As a result of the service, the customer now benefits from improved performance and reduced maintenance costs for the lifetime of the component.

### Product: MSV Sintered Metallic Friction, Pin Drive Clutch

- Air-applied clutch with sintered metallic friction material
- Designed for high-energy start applications
- Unique pin drive arrangement ensures plate separation and provides ease of maintenance
- Radially removed friction segments reduce downtime
- Built for marine duty
- Suitable for use with all major flexible coupling brands
- Extremely long friction material service life

For more information, download **P-8328-WC** from [www.AltraLiterature.com](http://www.AltraLiterature.com)



## Freedom Tower Elevator Drives Assisted By Twiflex



Photo courtesy of ThyssenKrupp

The observatory at 1 World Trade Centre (1 WTC) treats visitors to a spectacular 360-degree view of New York City from nearly 390 meters above its bustling streets. All that’s needed to travel to the upper reaches of the building, also known as the “Freedom Tower,” is a 60-second ride in the Western Hemisphere’s fastest elevator system. The elevators, supplied by ThyssenKrupp, utilize Twiflex VKSD disc brakes.

Unlike electromagnetically actuated brakes found in conventional elevators, the VKSD brakes are hydraulically actuated since each calliper’s clamping force exceeds 100 kN. A dedicated dual-circuit hydraulic unit generates the necessary oil pressure for both brake callipers.

The brake system is designed to dissipate the large amount of kinetic energy (which may exceed 2 kWh) generated by this high rise elevator application. Brake disc temperature can rise by more than 100K during an emergency stop.

The Twiflex VKSD disc brake calliper range is available in a standard configuration comprising two spring modules acting on each side of the disc or, as shown above, as a ‘floating’ brake. The minimum disc thickness is 20 mm, while minimum disc diameter is 1000 mm. Rated braking force extends from 28 kN to 119 kN, with a nominal coefficient of friction  $\mu = 0.4$ .

Twiflex will be present on the Altra booth, sharing space with Warner, Stromag, and other Altra companies at the Interlift exhibition in Germany this October.



For more information, download **P-7242-TF** from [www.AltraLiterature.com](http://www.AltraLiterature.com)

## Bibby Torque Protection For Power Station Furnace Conveyors

A global conveyor supplier required torque overload protection on screw conveyors used at a power plant in Indonesia. The conveyors move waste material, provided by local suppliers, to and from the facility's furnaces. The unmonitored material being transferred often contains large pieces of steel and concrete that could cause jams and possibly damage the conveyor's screw element.

The conveyor OEMs approached Bibby for a solution based on the brand's reputation and history. Bibby Modular Torque Limiters, with a torque breakout of 8,990 Nm (6,630 lb.ft.), were positioned between the drive motor and the gearbox to provide protection for the conveyor screws.

The solution offers simple adjustment of breakout torque while on-site and the ability to replace torque limiter modules without the need to remove the coupling from the drivetrain.

### Product: Modular Torque Limiters

- 8,990 Nm (6,630 lb.ft.) Torque breakout
- Easy on-site breakout torque adjustment
- Accurate release torque repeatability
- Simple, fast manual re-engagement
- Simple replacement without coupling removal

For more information, download P-7611-BB from [www.AltraLiterature.com](http://www.AltraLiterature.com)



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