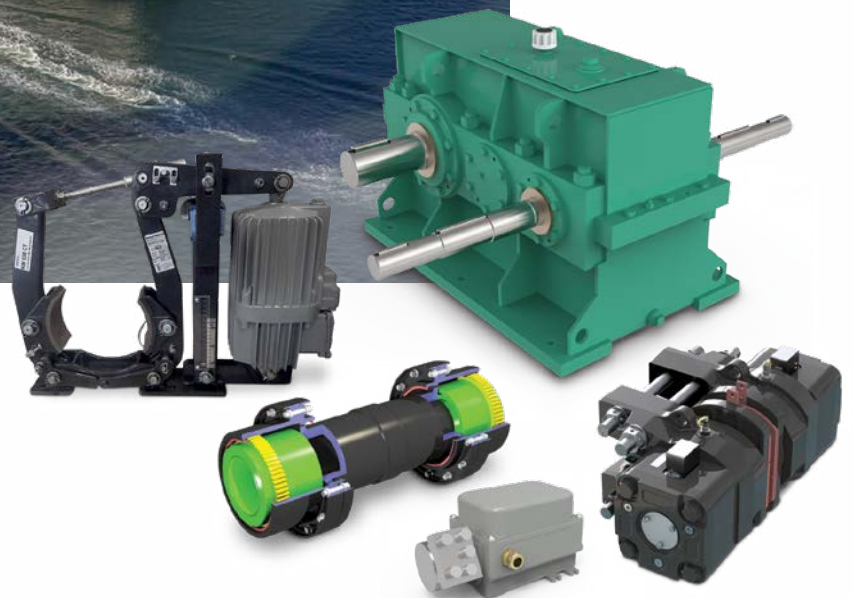


Ameridrives

Nuttall Gear

Stromag

Power Transmission Solutions for North American Bridge and Dam Applications



ALTRA MOTION PROVIDES FULL DRIVETRAIN SOLUTIONS FOR MOVEABLE BRIDGE AND DAM APPLICATIONS

Moveable structure engineers and OEM's worldwide have come to rely on the companies of Altra Motion for highly engineered, long-lasting power transmission solutions. Altra utilizes their exceptional engineering capability, extensive application expertise and advanced technologies to design and manufacture reliable products with the lowest cost of ownership.

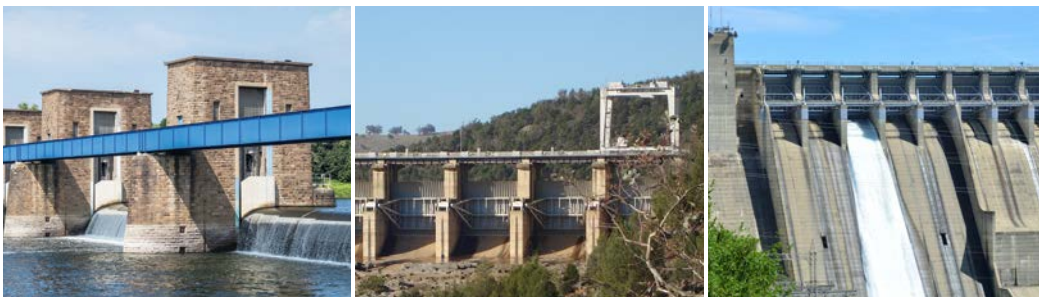
Altra companies provide full drivetrain solutions for the heavy moveable structure industry with a comprehensive offering of custom-designed helical and worm gear speed reducers, couplings and braking systems to meet specific project requirements. Altra engineered power transmission products are installed on all types of bascule lift, vertical lift and swing bridges as well as dam and spillway flood gates around the world.

Altra brands that support the heavy moveable structures market include Nuttall Gear, Stromag and Ameridrives.



Moveable Bridge Solutions

Custom Nuttall primary and secondary gearboxes ensure long-lasting bridge life. Stromag drum brakes and caliper disc brakes provide emergency stopping and/or holding functionality depending on if it they are mounted between the motor and gearbox or on one of the two gearbox output shafts. Limit switches set range of motion on the moveable sections of the bridge. Ameridrives gear couplings and shafts connect the gearbox output shaft with the drum or gear wheel.



Dam Spill Gate Solutions

Stromag drum brakes and caliper disc brakes provide emergency stopping and/or holding functionality depending on if it they are mounted between the motor and gearbox or on one of the two gearbox output shafts. Limit switches set range of motion on the spill gates. Ameridrives gear couplings and shafts connect the gearbox output shaft with the drum or gear wheel. Custom Nuttall primary and secondary gearboxes ensure long-lasting spill gate performance.

MANY QUALITY ALTRA PRODUCTS ARE MANUFACTURED AND/OR ASSEMBLED IN THE U.S. FOR RESPONSIVE DELIVERY TO OUR NORTH AMERICAN CUSTOMERS



Stromag

SAB Drum Brake Range

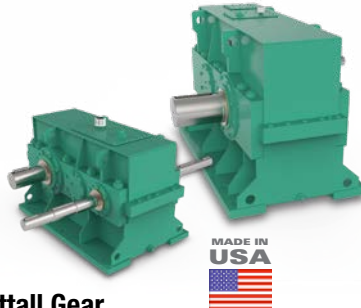
- 55 - 8,800 lb.ft. Braking torque
- For 6" - 30" drum diameters
- Standard AISE N.11
- Scale for torque adjustment
- Automatic lining wear compensation
- Brake shoe auto-aligning device
- Brake lever synchronization
- Self-lubricated bushings
- Galvanized steel spindles and hinges



Stromag

SH Disc Caliper Brake Range

- 230 - 458,000 Nm Braking torque
- For 300 - 3,000 mm disc diameters
- Spring application - Hydraulic release
- Opening proving switch
- Lining wear indicators
- SHS: caliper mounted on a support
- SHC: SH with Hydraulic Power pack
- Association with disc thicknesses: 12.7 - 15 - 20 - 30 or 42 mm



Nuttall Gear

Primary and Secondary Gear Drives

- Through-hardened or carburized helical gearing
- Carburized or through-hardened bevel gearing
- Welded steel housings for strength and durability
- All welds inspected by an Independent Certified Weld Inspector (CWI)
- In-house no-load testing and load testing to 500 HP
- Meets "Buy USA" requirement, including country of origin for the steel
- ASTM A668 and ASTM A829 key steel stock
- Gearing inspected per AGMA 6010-E88
- Minimum L10 bearing life rating (typically 40,000 hours)



Stromag

Series 51 Rotary Limit Switches

- Patented planetary gears
- Cam adjustments at fixed position in the housing (simple and precise adjustments)
- Patented block adjustments
- Large cam disc diameter
- Modular design with many identical parts
- 1-8 contacts
- 4.1-16,000 usable revolutions
- Various housing designs



Ameridrives

Amerigear® Gear Couplings and Shafts

- Over 10" diameter bore capacity
- Highest torque ratings at a full 1-1/2 degree of misalignment
- Torque capacity of over 1,000,000 in-lbs
- High axial capacity
- Standard design allows for installation flexibility (reverse mount hubs for unexpected shaft gaps)
- AGMA standard design for interchangeability
- Large stock of rough bore inventory available
- Both O-ring and metal seal models are available
- Strong, rigid floating sleeve
- Precision-machined identical hubs
- Positive dust-tight seals

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

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