RELIABILITY THROUGH INNOVATION

Target Industries

MagnaDrive's technology is applicable to most companies. However, the following industries have demonstrated the most benefits by utilizing MagnaDrive products:

- · Water / Wastewater
- Power Generation
- Pulp & Paper
- Irrigation
- Mining & Cement

• HVAC

• Oil & Gas

- Maritime
- Chemical Processing

Target Applications

MagnaDrive products are used with a wide variety of rotating equipment in industry. The top five applications of MagnaDrive technology are as follows:

> Pumps Centrifuges Blowers Fans Bulk Handling

U.S. Navy Program

The U.S. Navy has procured several hundred MagnaDrive units for a variety of critical pump applications. MagnaDrive's technology has passed the Navy's rigorous 9-G Shock Test and is currently placed on guided missile cruisers, destroyers and aircraft carriers, with plans to install MagnaDrive's products on pumps and other rotating equipment fleet wide, on all ship classes.

applications include Existing pumping equipment where reliability is critical to ship operations:

- Catapult Water
- JP5 Fueling
- Hydraulic Elevator Fire Water
- Chilled & Sea Water

The Navy spends 29 sailor-days per year per pump repairing and replacing seals, couplings and bearings on existing equipment. These costly repairs are nearly eliminated with MagnaDrive Technology. The Navy calculates that using MagnaDrive Technology will reduce their annual staffing needs by over 1,700 sailors.

About MagnaDrive

Bellevue-based MagnaDrive Corporation was founded in 1999. The company's breakthrough magnetic technology provides a cost effective solution to increase reliability and lower maintenance expense while achieving energy savings and process control. The impact and potential of the technology was recognized by Industry Week magazine, which selected MagnaDrive as Technology of the Year in 2001. MagnaDrive was selected by Inc. magazine as one of 2004's 500 fastest growing private companies in the United States. Also for 2004. Deloitte & Touche named MagnaDrive one of the 100 fastest growing technology companies in North America.

INDUSTRYWEEK TECHNOLOGY OF THE YEAR



Deloitte. Technology Fast 100



FGC on auided-missile cruiser USS Anzio (CG 68) 11 ASD's at Ashland Water Treatment Plant in Oregon

MagnaDrive

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MagnaDrive

MagnaDrive

MagnaGuard Standard Couplings (FGC & MGE)

Benefits:

- ✓ Lowest Total Cost of Ownership
- Low Maintenance
- Accepts Greater Misalignment \checkmark
- Eliminates Vibration Transfer between Motor and Load
- Increases Seal and Bearing Life \checkmark
- Simple Installation \checkmark
- Efficient Torque Transfer
- Permits Shock Loading \checkmark
- Meets ANSI B73 Standards (MGE only) \checkmark
- Meets API 610 Standards (MGE only) \checkmark

FGC & MGE – The New Standard for All Industrial Couplings



3 to 5,000 Hp - Up to 7,000 RPM Ideal for Applications Subject to:

Vibration Periodic Load Seizure Pulsating Loads Thermal Expansion Shock Loading **Tight Space Constraints**

MagnaGuard Delay Coupling (MGD)

Benefits:

- Cushioned Start & Stop \checkmark
- Lowest Total Cost of Ownership
- \checkmark Low Maintenance
- Accepts Greater Misalignment \checkmark
- Eliminates Vibration Transfer between \checkmark Motor and Load
- Increases Seal and Bearing Life \checkmark
- Simple Installation \checkmark
- Efficient Torque Transfer \checkmark
- Permits Shock Loading \checkmark

MGD – Advanced Cushioned Start & Stop



10 to 2,000 Hp - Up to 4,500 RPM Ideal for Applications Subject to:

Vibration Periodic Load Seizure Pulsating Loads Thermal Expansion Shock Loading Higher Starting Inertia/Torque

Torque Limiting Coupling (MGTL)

Benefits:

- ✓ Overload Torque Protection
- Self-resetting
- **Cushioned Start & Stop**
- Lowest Total Cost of Ownership
- Low Maintenance
- Accepts Greater Misalignment \checkmark
- Eliminates Vibration Transfer between \checkmark Motor and Load
- Increases Seal and Bearing Life \checkmark
- Simple Installation
- Efficient Torque Transfer
- Permits Shock Loading \checkmark

MGTL – Advanced Overload Protection



10 to 2,000 Hp - Up to 4,500 RPM Ideal for Applications Subject to:

Vibration More Frequent Load Seizures Pulsating Loads Thermal Expansion Shock Loading Higher Starting Inertia/Torque

\checkmark \checkmark √ \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark

 \checkmark

 \checkmark

RELIABILITY THROUGH INNOVATION

Adjustable Speed Drive (ASD)

Benefits:

Variable Speed Control Eliminates Inefficient Valves & Dampers **Eliminates Electronic Harmonics** Up to 66% Energy Savings Lowest Total Cost of Ownership Low Maintenance Accepts Greater Misalignment Eliminates Vibration Transfer between Motor and Load Increases Seal and Bearing Life Simple Installation Completely Disengaged Start-up

Permits Shock Loading

ASD – Precise Process Control



10 to 2,500 Hp - Up to 4,000 RPM Ideal for Applications Subject to:

A Need for Process Control Vibration Periodic Load Seizure Pulsating Loads Thermal Expansion Shock Loading Higher Starting Inertia/Torque