

DODGE MECHANICAL

# Grain industry

Delivering solutions that solve  
industry challenges





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# Mechanical power transmission products

## We help feed your productivity

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ABB relies on decades of experience and an expansive portfolio of Dodge® mechanical power transmission products to deliver innovative solutions for the grain industry. We are able to offer robust products that address the unique challenges, while increasing reliability, reducing maintenance, and improving productivity.

**Breadth of product**

- Complete line of mounted bearings, enclosed gearing, and power transmission components
- Packaged solutions for grain applications

**Local support**

- Largest domestic and global sales force
- US based product support

**Innovation**

- Easy-on, easy-off shaft attachments for all product types
- Premium sealing systems used to keep contaminants out and lubrication in
- Products that are compatible with nearly all types of synthetic or mineral oil lubrication
- Dodge Passport, web-based tool utilizing an intuitive process for selecting Dodge products

**Maintenance/uptime**

- Dodge products are designed and manufactured to provide long reliable life
- Adapter mounted systems and easy removal methods allow for minimal downtime
- Many accessories available to extend operating life and enhance safety



# Grain

## From truck to train, we move with you

### Industry expertise

- For decades Dodge products have proven to be best in the industry for moving grain throughout all phases of processing
- Fractional to 2,000 Hp (1,500 kW), Dodge products offer wide range of sizes to cover your needs down the line
- Dodge products successfully transport material exceeding 120,000 BPH

### Bucket elevators

Lifting material vertically for storage, bucket elevators are the heart of the grain facility where reliability is critical.

### Screw conveyors

Grain operations rely heavily on screw conveyors to move dry bulk materials from one process to another.

### Drag conveyors

Also known as chain conveyors, these meter or transfer large capacities of bulk material horizontally from one process through the facility.

We know the challenges in these applications, which is why we have developed specific features into our products to help solve your problems.

- High shock loads are in every grain application. Dodge gear reducers are built with tapered roller bearings to withstand shock loads and extend operating life of the equipment.
- Many areas within the grain facility are difficult to access, which is why Dodge products are built to be compatible with synthetic lubricants to ensure the longest time between relubrication cycles.
- Grain processing is a dusty application. The use of superior sealing systems keeping contaminants out and lubrication in to ensure lubrication to internal components in gearing and bearings is essential to Dodge products.
- Safety is always a top priority, which is why Dodge products offer a wide variety of solutions.
  - Bushings and end covers to protect workers from rotating equipment
  - Extreme Pressure (EP) capable backstops provide high reliability
  - Mildly explosive environments become safer when you use ATEX certified gear reducers



## Dodge Passport

The latest evolution in online selection tools



- Utilizing an intuitive visual interface, Passport quickly guides both novice and expert users through selection of individual products and packaged solutions
- Customized selection process allows you to set default preferences to increase efficiency
- Selection logic is based on decades of engineering expertise, ensuring accurate and reliable selections
- For increased productivity, Passport empowers users to select products, obtain pricing, view inventory, and enter orders on one platform

Visit [dodgepassport.abb.com](http://dodgepassport.abb.com)

## Products

### Mounted bearings

Dodge mounted bearings lead the industry for heavy duty applications. Better sealing provides added protection from the elements and extends bearing life by keeping contaminants out and preventing grease loss.



#### Imperial spherical bearings

- Two bolt and four bolt pillow blocks, flanges, and take ups from stock
- Inch and metric bore offerings
- Patented installation and removal feature that increases productivity
- Harsh duty seal

 End covers for safety



#### Type E tapered bearings

- Most popular bearings in screw conveyor applications; available from stock
- High capacity tapered roller bearings for heavy shock and thrust loads
- Harsh duty seal

 End covers for safety



#### ISAF – spherical bearings

- Easy, intuitive installation and removal system with patented adapter mounting system
- Factory sealed saving maintenance time and preventing grease contamination during installation
- Corrosion resistant coated steel end covers available
- Interchange with industry standard SAF dimensions a barrier for contaminant

 End covers for safety



#### Hydraulic ISAF & ISNX spherical bearings

- Hydraulic mount and dismount system
- Harsh duty seals are standard for contaminant rich environments



The shield is an indicator of product features or accessories intended as extra safety features.

## Products

### Gear reducers

ABB offers a variety of Dodge gear reducers that have been outperforming competitors for decades. This reliability provides less downtime and thus feeds productivity.



#### Torque-Arm II

- 12 case sizes through 400 Hp (300kw)
- Twin tapered bushings for alignment-free mounting up to 7" (160 mm) shaft
- ATEX certified
- Optional breathers, Hydra-Lock and enclosed chamber, available to protect gear reducers in high humidity, excessive dusty and dirty, or even extremely dry environments



Safety features: Bushing covers, belt guards, and backstops are all available from stock



#### Motorized Torque-Arm II

- 7 case sizes through 100 Hp (75kw)
- Twin tapered bushings for alignment-free mounting up to 4-7/16" (120 mm) shaft
- Heavy-duty right angle reducer available from stock utilizing NEMA or IEC motors
- ATEX certified
- Optional breathers, Hydra-Lock and Position D breather kit, available to protect gear reducers in high humidity, excessive dusty and dirty, or even extremely dry environments for all mounting positions



Safety features: Bushing covers and backstops are all available from stock

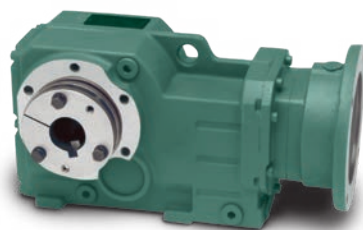


#### Magnagear XTR®

- 12 case sizes up to 3.5M lb-in (395 kNm)
- Twin tapered bushings for alignment-free mounting up to 8" (200 mm) shaft
- Complete swing base or tunnel housing packages available



Safety features: Bushing covers and backstops are all available from stock



#### Quantis® RHB/ILH/MSM

- Available in right angle, inline, or offset parallel configurations
- 8 case sizes up to 75 Hp (55 kw)
- Extended ratios to meet exact output speeds
- Available in inch and metric solutions



Safety features: Bushing covers and backstops are all available from stock



## Products

### Power transmission components

#### Power transmission components

Dodge couplings, mechanical drives and pulleys complete the drive package moving grain throughout the facility.



#### DM moment couplings

- Maximum torque capacity exceeds 3.7M in.-lb. (415K Nm)
- Accommodates up to 18 inch (465 mm) bore size
- Engineered to support bending moment forces of an entire gearbox drive package
- Easy removal of coupling halves for maintenance and repair purposes



#### Raptor elastomeric coupling

- Patented split tire style coupling
- Natural rubber WingLock™ element delivers six times longer coupling life
- Industry-leading combined angular and parallel misalignment capabilities
- Easiest installation of any tire coupling
- Maintenance friendly, non-lubricated design
- 5-year warranty



#### Mechanical drive components

- Full line of Taper-Lock® and QD sheaves and bushings available
- Full line of classical (A, B, and C) and DV Wedge (3V, 5V, and 8V) belts
- Various offerings of synchronous drive packages lead by HT500, a modified curvilinear tooth profile



#### Conveyor components

- Single or double disc elevator pulleys
- Heavy duty or mine duty extra construction available from stock to support belt conveyor applications
- High compression XT tapered hubs or keyless locking devices available
- Available lagging options include: SBR, D-Lag, replaceable slide lagging, vulcanized, or cold bond ceramic
- Engineered designs for demanding applications

## Grain

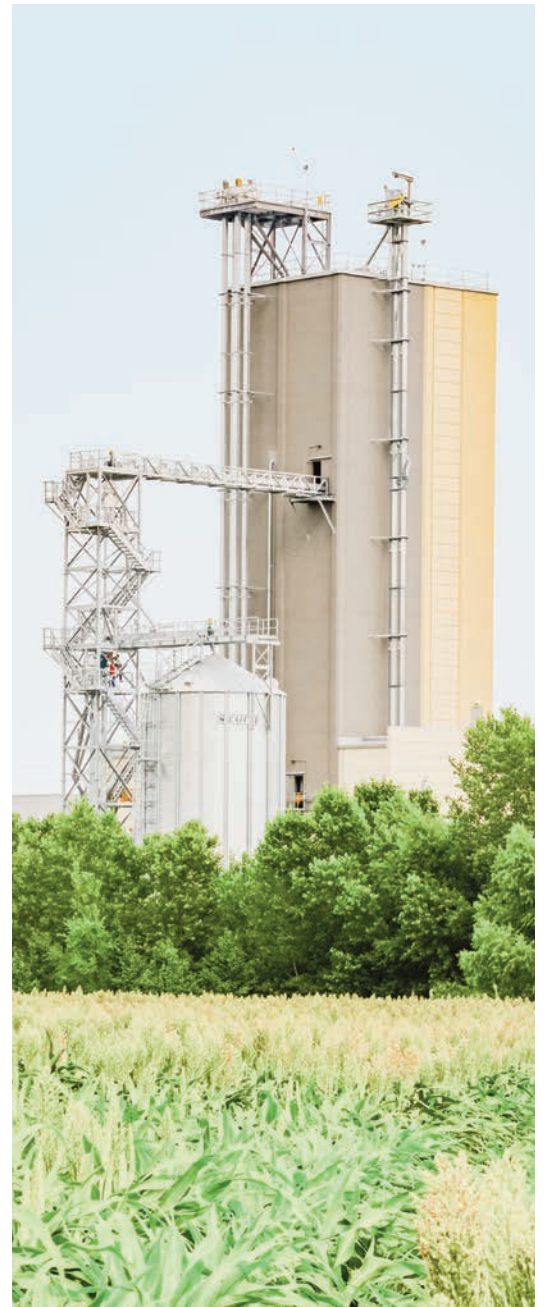
We can provide packaged solutions

Continuing to build off the heritage of Dodge products, ABB has a unique understanding of the issues that impact productivity in grain. We design, manufacture, install, and service products to reduce downtime and positively increase reliability.

We keep your employees safe with our innovative safety features.

For grain, whether it is used for food or fuel, the best solution is to choose Dodge mechanical products. We are the industry proven standard and we want our customers to keep conveying their grain.

Product		Application			
		Bucket elevator	Screw conveyor	Drag conveyor	Other applications
		Up to 400 Hp (300 kw)	Up to 100 Hp (75 kw)	Up to 400 Hp (300 kw)	
Gearing	Torque-Arm	✓	✓	✓	✓
	Motorized Torque-Arm	✓	✓	✓	✓
	Magnagear XTR	✓	-	-	✓
	Quantis	✓	✓	✓	✓
	Tigear®-2	-	-	-	✓
Bearings	Imperial	✓	✓	✓	✓
	Hydraulic ISAF	✓	✓	✓	✓
	Type E	✓	✓	✓	✓
	Ball bearings	✓	✓	✓	✓
Power transmission components	Conveyor components	✓	-	-	✓
	Couplings	✓	-	✓	✓
	Sheaves, bushings, belts	✓	✓	✓	✓
	Synchronous drives	✓	✓	✓	✓



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