

Product Brochure

Power and productivity go hand in hand Mechanical power transmission products

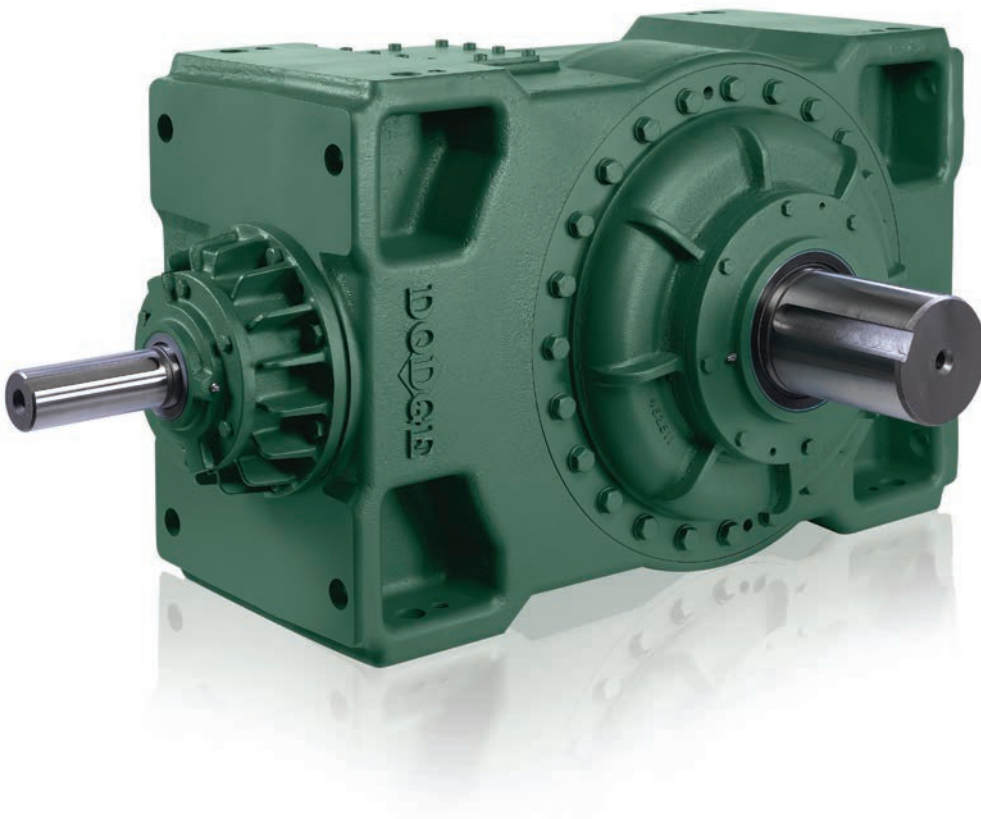


Power and productivity
for a better world™



With Dodge® mechanical power transmission products, you get more than just power. You get the widest range of mechanical products available – plus the added assurance of a reliable partner dedicated to responsive service and complete support. For well over a century, Dodge products have helped manufacturers in numerous industries increase the productivity and profitability of their operations. By focusing on each industry and concentrating on its specific needs, we have developed innovative product solutions and advanced technologies that help improve output, decrease downtime, and enhance system value. Only ABB offers you a total mechanical power transmission solution: rugged, reliable products with patented features along with experienced field experts.

Together, you have one source for all your industrial product needs.



MagnaGearXTR®



Components that connect

Dodge® power transmission products have advanced the standards in industry – affecting and improving the way the world transfers power. ABB now offers the essential elements of power transmission with Dodge drum pulley assemblies, mechanical drive components, and the broad line of couplings.

Drum pulley assemblies

- Pulley assemblies fit CEMA dimensions and exceed the CEMA application standards by three to five times
- One-piece integral hubs eliminate welded hub heat-affected zones (HAZ)
- 360° welding of internal center disc
- Up to 1" or 1/2" on wing (25.4 mm or 12.7 mm) vulcanized 45, 60, and 70 durometer SBR and 45, 60, and 70 durometer neoprene rubber lagged with plain and groove surfaces
- Crowned or straight face
- Vulcanized 60 durometer D-Lag with 73% more abrasion resistance than 60 durometer SBR
- MDX wing pulleys designed for use with MDX drum pulleys
- Rugged wing-on-drum construction incorporating 2-3/4" (70 mm) thick contact bars and 3/8" (10 mm) thick wings

Mechanical drive components

- Bushing styles in multiple belt profiles 3V, 5V, 8V, A, B, C, D, E
- Wide range of bushing sizes
- Fixed bore and bushed light duty, variable pitch, adjustable pitch, heavy duty adjustable pitch and step FHP sheaves
- Synchronous pulleys have multiple tooth profiles available including trapezoidal, curvilinear, modified curvilinear and reinforced parabolic
- Wide range of classical and narrow V-belts, cogged, banded, double V, FHP and synchronous belts
- Designed for harsh environments
- Made-to-order sheaves and bushing capabilities

Dodge® Para-Flex®, Grid-Lign®, gear, rigid and fluid couplings

- 10 different types of elastomeric and metallic couplings
- Torque ratings up to 83,345 lb-ft (113k Nm)
- Bore sizes up to 12 inches (305 mm)
- Shaft mounting available with clearance fit, interference fit, bushings (QD, Taper-Lock and Grip Tight)
- Application specific couplings: spacer, flywheel, floating shaft, mill motor
- Single/multiple delay-fill and control fill fluid couplings available

Fully assembled bearing ready for industrial use

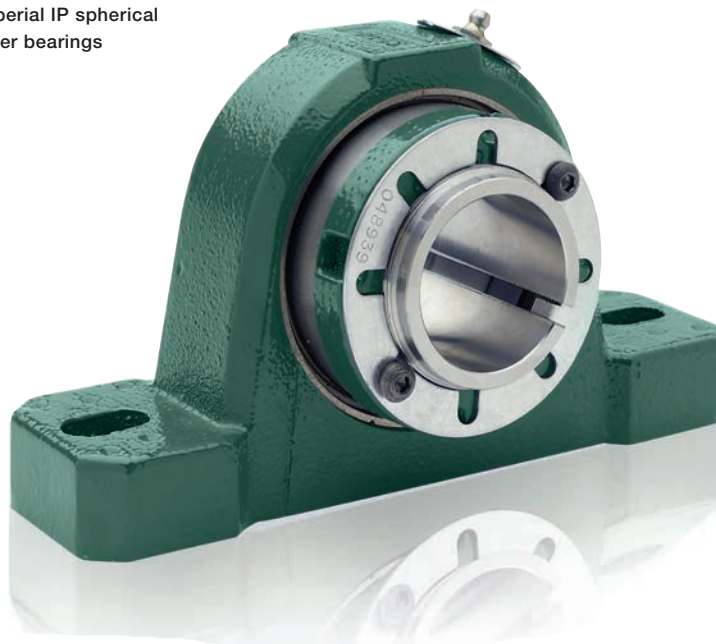
All sizes, all applications,
everything in stock

ABB utilizes global resources to ensure that bearing users throughout the world have access to the highest quality and best selection of bearings in the industry.



Roller bearings

Imperial IP spherical roller bearings



Roller bearings

For decades, industry's leading producers have depended on Dodge® roller bearings to handle their conveyance and power transmission needs. Dodge bearings offer innovative designs; a wide range of shaft attachment methods, rolling elements, housings, and seal choices; patented features; and consistent performance.

Type E-xtra® tapered roller bearings

- Tapered rolling elements
- Completely assembled, factory adjusted, and properly lubricated – shaft ready
- Extra protection – E-Tect seal option
- Comparable mounting dimensions with ball bearings
- E-xtra allows easy upgrade from ball bearings

S-2000 spherical roller bearings

- High-capacity, double-row spherical rollers
- Permits static or dynamic misalignment of $\pm 1^\circ$
- Factory sealed, lubed, and adjusted
- Available with Trident triple lip and labyrinth seal options
- Springlok collar mount with 65° setscrew spacing for optimum clamping force
- Available in type E dimensions and steel housings

Imperial IP spherical roller bearings

- Industry's only push/pull adapter mount system
- Available in 2-bolt and 4-bolt pillow blocks, flanges, and take-ups
- Accepts commercial tolerance shafting
- Full concentric shaft attachment with adaptor sleeve mount
- Virtually eliminates fretting corrosion
- Capable of withstanding static or dynamic misalignment of $\pm 1^\circ$
- Shaft-ready out of the box
- Available in Type E dimensions and steel housings

ISN spherical roller bearings

- Industry's only push/pull adapter mount system
- Available in two-bolt pillow blocks
- Accepts commercial shaft tolerances
- Installation and removal in fewer than 15 minutes
- Fully concentric shaft attachment with adaptor sleeve mount
- Virtually eliminates fretting corrosion
- Capable of withstanding static or dynamic misalignment of $\pm 1^\circ$
- Shaft-ready out of the box
- Available with Trident triple lip or labyrinth seal options
- Sizes range from 1-1/8" through 5" (30 mm through 140 mm)
- SN mounting dimensions

ISAF and ISAF hydraulic spherical roller bearings

- Dimensionally interchangeable with SAF style pillow blocks
- Patented Imperial adapter mounting system
- Easy installation – no feeler gauges needed
- $\pm 1^\circ$ static or dynamic misalignment capability
- Virtually eliminates fretting corrosion
- Shaft-ready out of the box, no assembly of components necessary
- Available with integral, hydraulically-assisted mounting and dismounting, in sizes up to 15" (381 mm)

Mounted ball bearings



Mounted ball bearings

When it comes to reliable service and low maintenance, Dodge® mounted ball bearings are unmatched in the industry. Dodge mounted ball bearings are available in any of our proven locking devices: our exclusive 65° setscrew locking system, eccentric locking collars, D-Lok™ concentric clamp locking system and our patented Grip Tight adapter mounted ball bearing.

D-Lok ball bearings

- Two types: normal duty DL and medium duty DLM
- DualGuard seal – comprised of single lip seal and rubberized flinger – standard on all DL, DLM ball bearings. Snap in end covers available from stock for most popular cast housings.
- Concentric clamp collar locks the bearing to the shaft by tightening a single allen wrench cap screw – provides concentricity between the bearing and shaft
- Anti-rotation device prevents insert rotation associated with heavy loads, vibration, unbalanced loads, and high-speed applications
- High-temperature option available to 400 °F (204 °C)
- Plus or minus 2° static misalignment

Ultra Kleen®, E-Z Kleen®

- Reinforced polymer and stainless steel housings
- Patented polymer housing includes antimicrobial agent which resists bacterial and fungus growth
- Two inserts: corrosion resistant and stainless steel insert
- Three locking devices: 65° setscrew angle (SC), concentric clamp collar (D-Lok), and Grip Tight adapter mount
- Quadguard seal – comprised of our triple lip seal and unique rubberized flinger. Additional grease retention provided by the maxlife cage.
- Anti-rotation device prevents insert rotation associated with heavy loads, vibration, unbalanced loads, and high-speed applications
- Plus or minus 2° static misalignment

Grip Tight® ball bearings

- Two types: normal duty GT and medium duty GTM
- DualGuard seal – comprised of single lip seal and rubberized flinger
- Thin wall adapter mounting offers 360° full shaft contact and concentricity. No shaft
- Marring or fretting corrosion like setscrew and eccentric collar products. Integral dismount feature easily removes the bearing from the shaft. Turned, ground, and polished shafting is not required.
- Anti-rotation device prevents insert rotation associated with heavy loads, vibration, unbalanced loads, and high-speed applications
- High-temperature option available to 400 °F (204 °C)
- Plus or minus 2° static misalignment

Extreme duty – SCED, SCMED

- Harsh-duty seals are standard
- QuadGuard-Triple-Lip seal with rubberized flinger
- Synthetic grease is standard – mobilith SHC 220 PM
- End covers – pop-in style
- 65° setscrew
- Wide inner ring design
- Anti-rotation pin to prevent insert from spinning in housing
- Bore range
 - SC 3/4" to 2-15/16" (20 mm to 75 mm)
 - SCM 1" to 3-1/2" (25 mm to 85 mm)

Sleeve bearings

Sleeveoil RTL



Sleeve bearings

Dodge® offers a wide variety of plummer and sleeve bearings that are uniquely engineered to provide reliable performance – even in the harshest environments. Ideal for mining, air handling, unit handling, high temperature, and food and beverage applications, they feature patented technologies that reduce maintenance and ensure long service life.

Solidlube® sleeve bearings

- Functions in harsh environments where ball bearing will not work
- Self-lubricating, statically self aligning
- Covers a wide range of temperature extremes
 - 700 Series: -40 to 700 °F (-40 to 370 °C)
 - 1000 Series: -200 to -40 °F (-128 to -40 °C) and 250 to 1000 °F (120 °C to 537 °C)
- Housing types: 2-bolt pillow blocks, 4-bolt and 2-bolt flange units, and take-up units
- Ideal where bearings are subject to dry cycles or where lube systems would be too costly
- Bore sizes 3/4" to 5" (20 mm to 75 mm)

Sleeveoil® RTL series hydrodynamic pillow block bearings

- Extended life (no metal-to-metal contact during operation)
- Handles high speeds
- Dampens vibration, provides quiet operation
- Fully split for ease of maintenance
- Self aligning
- Three times the thrust load capability of R series Sleeveoil
- External cooling (air, water, or oil) available for hot shafts or high temperatures

Take-up frames

- Standard take-up frame travel from 1-1/2" to 60" (38 mm to 1524 mm)
- Take-up frames allow for the mounting of Dodge ball, roller, and sleeve bearings
- Take-up frame capacity is pre-engineered to exceed bearing capacity
- Made to provide/maintain tension and shaft centers on a variety of belt and chain-type conveyors
- Telescoping and wide slot take-up frames are available in stainless steel

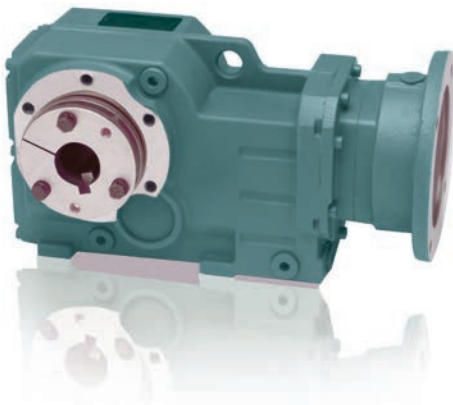
Robust construction; fine graduation

ABB offers Dodge® complete gear products. These gear products are manufactured to meet a specific need and are ready for application by a customer. Regardless of industry or environment, ABB offers a gearing solution that fits your needs.





Quantis®



Quantis

- ILH inline helical, RHB right angle helical bevel, MSM motorized shaft mount
- Output Ratings, 1/4 hp to 75 hp (0.75 kW to 56 kW); up to torque 10,326 lb-ft (14,000 Nm)
- Ratios, 1.5:1 - 300:1 + (capable of higher ratios through tandem configuration)
- 8 Case sizes per housing configuration, clamp collar, 3-piece coupled, integral gearmotor, separate input. Solid, straight hollow output
- ILH/MSM efficiency of 98% per stage, RHB efficiency of 95% per stage
- All units shipped filled with oil from the factory and are installation ready
- Optional XT harsh duty seal for operation in wet and dirty environments
- Class 30 gray iron housings cast with internal ribbing for added strength
- Options include washdown and screw conveyor configurations

Tigear-2®



Tigear-2

- Single-worm with quill, separate or 3-piece coupled input, cast iron construction
- Totally enclosed, maintenance free, ventless
- 10 case sizes 1.33 to 4.75" (33.78 to 120.6 mm) center distances
- 5:1 to 60:1 reductions, solid or hollow output
- Grip Tight® bushing system available
- E-Z Kleen® and Ultra Kleen® (Premium 316 stainless steel housing) available
- Factory filled with synthetic lubricant

Industrial gearing

TXT Torque-Arm® shaft mount reducers

- Exclusive twin tapered bushings
- Rugged cast-iron efficient housing
- Precision, high-quality helical gearing
- Reliable anti-friction bearings and seals
- Meets/exceeds AGMA standards
- 100% factory noise and leak tested
- Standard ratios: 5, 9, 15, and 25:1
- Ratios up to 210:1 with V-belts
- Fractional to 700 hp (515 kW)
- Output speeds through 400 RPM
- Flange mount and vertical shaft options
- Harsh duty accessories

Motorized Torque-Arm II™



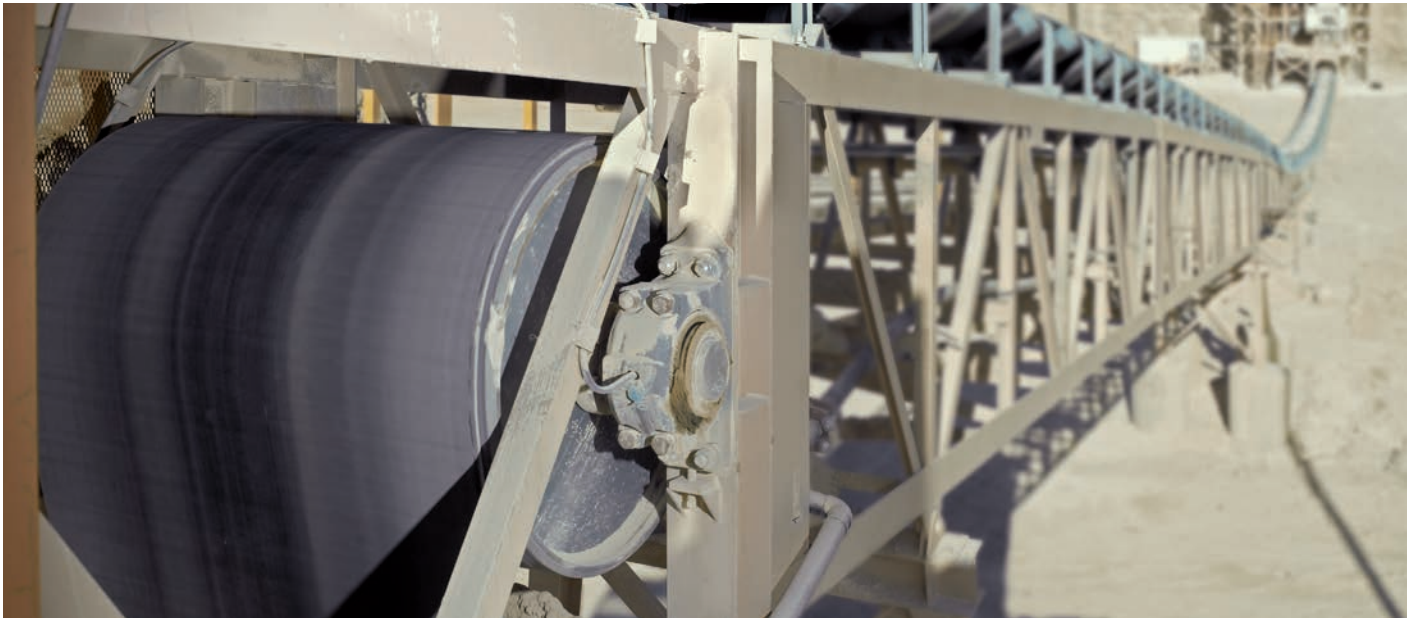
Torque-Arm II

- All reducers can be shaft mounted: screw conveyor, vertical, and flange mounted
- Horsepower ratings through 400 hp (294 kW)
- Torque ratings through 41673 lb-ft (56,500 Nm)
- Standard 5, 9, 15, 25, and up to 40:1 gear ratios
- Nearly 300:1 speed reduction with V-belt drives
- Twin-tapered bushing bores: 1" through 7" (25 mm through 160 mm)
- Highly efficient helical gearing
- Meets or exceeds AGMA standards, including 5,000 hours L10 life and 25,000 average hour life
- New heavy duty lip seals for extended wear life, -40 to 280 °F (-40 to 138 °C)
- 100% factory noise and leak tested
- New metal shield sealing system with excluder lip
- AGMA output torque ratings up to 41673 lb-ft (56,500 Nm)

Motorized Torque Arm (MTA) II

- Premium HNBR oil seals with excluder seal technology
- Industry leading backstop design
- Straddle mount input pinion gives maximum torque throughput, no press-fit shank pinion
- Available in 3 hp -75 hp (2.2 kW - 55 kW) based on output speeds
- 1-5/16" through 3-7/16" (35 mm through 85 mm) bushing bores
- Reduced assembly time and guarding costs
- Reduced maintenance requirements
- Compact, flexible drive design
- Reducer mounts in multiple positions
- Two motor speeds and multiple gear ratios provide a wide spectrum of output speeds
- Rugged, high efficiency, case carburized helical/bevel gearing





Controlled Start Transmission™ (CST)



Controlled Start Transmission™ (CST)

- Parabolic starting curves
- Adjustable acceleration times
- Deceleration (not braking) ramps
- Multiple Starting Duty
- Cooling system designed for repeated starts
- Main motor may be left running between starts

MagnaGearXTR®

- Parallel shaft or right angle configurations available
- Torque capacities from 283 to 920 lb-in (32 to 104k Nm) available
- Global product design to fit all markets
- Multiple mounting configurations available (base mounting, swing base mounting, tunnel housings)
- Can be used with a variety of soft start mechanisms including VFD and fluid couplings

MagnaGearXTR®



Maxum® concentric speed reducers

- Compact, power-dense design
- Precision-machined, cast-iron and ductile iron housings
- Highly efficient AGMA-rated helical gearing
- Heavy duty tapered roller bearing design meets or exceeds AGMA standards
- Metallic double-lip seals – input/output
- Full line of accessories available

Contact us

www.abb.com/mechanicalpowertransmission

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