

# Mechanical power transmission

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# Mechanical power transmission

## Gearings

For well over a century, Dodge products have helped manufacturers, OEMs and producers increase the productivity and profitability of their operations.

ABB has added new warehouse space to stock Dodge mechanical power transmission products, which ensures they are quickly accessible when you need them.

### Torque-Arm II



- All reducers can be shaft mounted: screw conveyor, vertical, and flange mounted
- Up to 294 kW
- Up to 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: 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 - 138°C
- 100 percent factory noise and leak tested
- New metal shield sealing system with excluder lip
- AGMA output torque ratings up to 56,500 Nm

### Quantis



- Inline helical (ILH), right angle helical bevel (RHB), motorised shaft mount (MSM)
- 0.75 kW - 56 kW up to 14,000 Nm
- Ratios, 1.5:1 - 300:1
- 8 case sizes per housing configuration, clamp collar, 3-piece coupled, integral gearmotor, separate input. Solid, straight hollow output – ILH/MSM efficiency of 98 percent per stage, RHB efficiency of 95 percent 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 grey iron housings cast with internal ribbing for added strength
- Options include washdown and screw conveyor configurations

### MagnaGearXTR®



- Parallel shaft or right angle configurations available
- Torque capacities from 32 - 104 kNm 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 VSD and fluid couplings

# Mechanical power transmission

## Mounted bearings

When it comes to reliable service and low maintenance, ABB Dodge® mounted ball bearings are unmatched in the industry. ABB Dodge mounted ball bearings are available in any of our proven locking devices: our exclusive 65° setscrew locking

### Setscrew ball bearings



system, our patented Grip Tight adapter mounted, eccentric locking collars and D-Lok™ concentric clamp locking system mounted ball bearing.

- Superior 65° locking setscrew
- DualGuard seal – comprised of single lip seal and rubberised flinger
- Stronger, more flexible bearing cage
- Optimum balance between locking forces
- Heat stabilised nylon construction with an inner ring stress fiber-glass reinforcement
- Secure fit to the shaft

### Grip Tight® ball bearings



- Two types: normal duty GT and medium duty GTM
- DualGuard seal – comprised of single lip seal and rubberised 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 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), Grip Tight adapter mount and concentric clamp collar (D-Lok).
- Quadguard seal: comprised of our triple lip seal and rubberised 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

# Mechanical power transmission

## Roller bearings

For decades, industry's leading producers have depended on ABB Dodge® roller bearings to handle their conveyance and power transmission needs. ABB Dodge bearings

offer innovative designs; a wide range of shaft attachment methods, rolling elements, housings and seal choices, patented features and consistent performance.

### ISN spherical roller bearings



- The 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 adapter 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 30 mm through 170 mm
- SN mounting dimensions

### 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

# Mechanical power transmission

## Couplings

### Elastomeric, sleeve style - ABB Dodge D-Flex couplings



Three-way flexing action handles shock, vibration and misalignment. The ABB Dodge D-Flex™ coupling features moulded, non-lubricated, interchangeable elastomeric sleeves of EPDM, neoprene Hytrel. Its three-way flexing action accommodates torsional, angular and parallel misalignment, as well as axial end float.

### Elastomeric, tyre style - ABB Dodge Para-Flex



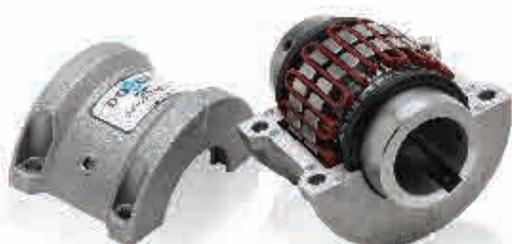
ABB Dodge Para-Flex elements are manufactured with reinforcing fabric tension cords that transmit much of the torque during operation.

The uniform and centred bead in the foot of the tyre element prevents it from pulling out during operation. Additionally, the tyre element is reinforced at the split to reduce fatigue and extend life.

ABB Dodge Para-Flex elements provide accommodation of shaft misalignment during installation, running-time and replacement better than other elastomeric elements.

With an industry-leading combined 4° angular, 3.17 mm (1/8 in.) parallel and 7.93 mm (5/16 in.) end-float capability, Para-Flex couplings will perform in difficult applications and reduce valuable time needed for installation and maintenance.

### Metallic, grid style - ABB Dodge Grid-Lign



Compact in size, yet high in torque capability, ABB Dodge Grid-Lign couplings are available in a variety of sizes, in standard and spacer styles. Every coupling features two steel shaft hubs, a tapered grid element, two seals and a cover assembly. Its versatile design allows for a motor or reducer output speed connection and its speed capability ranges up to 6,000 rpm dependant on size. ABB Dodge Grid-Lign is available in T31 and T35 spacer designs up to size 1200T. This spacer offering can be used as a spacer coupling, or mounted to a brake disc or drum.

The ABB Dodge Grid-Lign coupling's tapered grid element is engineered with high-strength, spring steel that is quenched and tempered. This feature helps isolate vibration and cushions shock loads. In addition, it allows uniform contact during light, normal and shock-loading conditions for long machine life.