

Application note

Dodge® product solutions for drag conveyors

Drag conveyors, sometimes called chain conveyors, run horizontally or at inclined angles throughout grain storage facilities, metering or transferring large capacities of bulk materials from one process to another. The mechanical power transmission equipment powering this chain-driven conveyor is subjected to severe shock loads and vibration, as well as multiple stops and starts, extreme weather and temperature ranges, and dusty and dirty environments. Typically located in hard to access areas, maintaining the equipment on drag conveyors is also challenging.

With decades of experience applying Dodge mechanical power transmission products in the grain industry, we have a unique understanding of the issues that impact productivity and have designed products that will operate more reliably, with less maintenance, and with a smaller footprint and fewer components.

The Dodge Motorized Torque-Arm® II (MTA) gear reducer, a heavy-duty right angle beltless direct drive solution, is a compact space-saving design with reduced maintenance requirements. Requiring fewer parts for installation versus competitors units, the MTA is also a cost competitive choice. Furthermore, it uses industry standard stock motors that have either IEC B5 or NEMA C-face construction.

Dodge gearing and bearing solutions also feature superior sealing systems to prevent contamination, and an exclusive bushing system that makes it easy to mount and dismount these products with no corrosion or shaft damage.

Beyond individual products, our System-1™ packaging offers customers an integrated single source for both the mechanical and electrical needs for drag conveyors. Our capability to pre-assemble products means customers receive a complete packaged solution, with optimized product selection, one invoice and warranty, and a single point of contact.

Only Dodge products offer a total mechanical power transmission solution:

- Rugged and reliable
- Easy to install and remove
- Easy to maintain
- Last longer
- Maximize process up-time
- Lower total cost of ownership

For your drag conveyor needs, Dodge mechanical power transmission products are unmatched in the industry.



Gearing product solutions

Motorized Torque-Arm® II

- Heavy-duty right angle beltless direct drive using stock motors – IEC B5 or NEMA C-Face
- Available in 1.5 kW – 75 kW (3 Hp – 100 Hp)
- ATEX certified

Torque-Arm® II shaft mount reducer

- 12 case sizes through 300 kW (400 Hp)
- ATEX certified

MagnaGear XTR® reducers

- Compact, power dense reducer in a heavy-duty package
- Torque ratings from 11,300 to 395,000 Nm (100,000 to 3,500,00 lb-in) accommodating ratings of over 5,400 kW (7,200 Hp)

Bearing product solutions

ISN spherical roller bearings

- Cast iron two-bolt plummer blocks, 30 – 140 mm
- Ductile iron four-bolt plummer blocks, 150 – 170 mm
- One piece, factory greased, out-of-the-box ready to install
- Dimensionally interchangeable with SN style housed units

IP spherical roller bearings

- Two-bolt and four-bolt pillow blocks, flanges, and take-ups
- Inch product with metric bore sizes available

Power transmission components

Para Flex® couplings

- Industry leading misalignment capabilities
- Easy installation and removal
- Accommodates up to 203 mm (8 in) bores and 51,180 Nm (453,000 in-lbs) of torque

Grid-Lign® couplings

- Flexible tapered grid isolates vibrations and cushions shock loads
- Accommodates up to 360 mm (13 in) bores, and 186,417 Nm (1,650,665 in-lbs) of torque

HT 500 synchronous drive

- 98% efficient drive system featuring the modified curvilinear tooth profile
- Compact, power dense, and reduces overhung load
- Reduced maintenance costs, belts run slip free

