









MECHANICAL POWER TRANSMISSION

# **Product overview**

# **DODGE**®





# ABB offers complete mechanical solutions

Since 1878 Dodge® mechanical power transmission products have handled the toughest applications, providing the lowest total cost of ownership to both OEM's and end users. ABB offers the complete line of Dodge mounted bearings, enclosed gearing, couplings, pulleys and belted drives, all engineered and manufactured to perform reliably with less maintenance.

Dodge products feature industry leading patented sealing technology that provides extended life in both harsh duty and sanitary washdown applications. Unique mounting systems also make Dodge products easy to install and remove, without shaft damage.

Decades of experience applying mechanical products throughout a wide range of industries means we understand issues that impact productivity and can offer expertise to help improve output and productivity.

For larger projects, the Bulk Material Handling team specializes in customized bulk material handling conveyor drive solutions, combining design engineering skills with in-depth industry and product knowledge to deliver packaged solutions for projects in the mining, aggregate, cement, and grain industries. Our capability to package and preassemble products means we provide a complete system solution, with optimized product selection, one invoice and warranty, through an integrated single source for all of your mechanical and electrical needs

ABB is your partner for total mechanical power transmission solutions.

- · Rugged and reliable service
- · Easy installation and removal
- Easy maintenance
- · Long product life
- · Maximum process up-time
- · Lower total cost of ownership



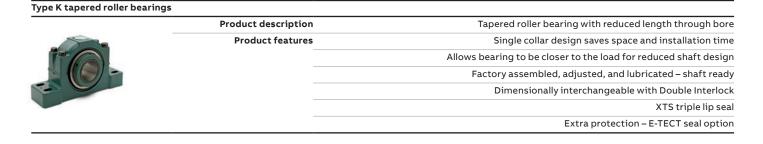


# Mounted roller bearings

Leading industry producers trust Dodge mounted roller bearings to handle their conveyance and power transmission needs. Throughout the years, Dodge mounted roller bearings have earned the reputation for reliability and ease of maintenance.

Dodge mounted roller bearings feature innovative designs; including sealing options that protect the bearings from contamination that can cause failures, and a patented easy-on, easy-off adapter mounting and removal system that provides a concentric grip for superior holding on the shaft.

| Type E-XTRA® tapered roller bear                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Product features                                | Completely assembled, factory adjusted, and properly lubricated – shaft ready                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 | XTS triple-lip seal                                                                                                                                                                                                                                                                                                                                                                                       |
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| Type EXL tapered roller bearings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |
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| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Product features                                | Split-cap, ductile iron housing                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 | Type E mounting dimensions                                                                                                                                                                                                                                                                                                                                                                                |
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| TAF tapered roller bearings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Product description                             |                                                                                                                                                                                                                                                                                                                                                                                                           |
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| TAF tapered roller bearings  Double Interlock® tapered roller leads to the second seco | Product features                                | A mounted tapered rolling bearing interchangeable with SAF style pillow blocks  XTS triple-lip seal  E-TECT seal option available up to 7"  Shaft ready – mounts six times faster than SAF  Factory assembled, adjusted, and lubricated – shaft ready  Up to 5° static misalignment                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Product features  bearings  Product description | A mounted tapered rolling bearing interchangeable with SAF style pillow blocks  XTS triple-lip seal  E-TECT seal option available up to 7"  Shaft ready – mounts six times faster than SAF  Factory assembled, adjusted, and lubricated – shaft ready  Up to 5° static misalignment  A mounted tapered roller bearing with dual locking collars                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Product features                                | A mounted tapered rolling bearing interchangeable with SAF style pillow blocks  XTS triple-lip seal  E-TECT seal option available up to 7"  Shaft ready – mounts six times faster than SAF  Factory assembled, adjusted, and lubricated – shaft ready  Up to 5° static misalignment  A mounted tapered roller bearing with dual locking collars  XTS triple-lip seal                                      |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Product features  bearings  Product description | A mounted tapered rolling bearing interchangeable with SAF style pillow blocks  XTS triple-lip seal  E-TECT seal option available up to 7"  Shaft ready – mounts six times faster than SAF  Factory assembled, adjusted, and lubricated – shaft ready  Up to 5° static misalignment  A mounted tapered roller bearing with dual locking collars  XTS triple-lip seal                                      |

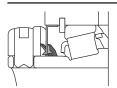


#### Special Duty tapered roller bearings



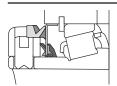
| Product description | High capacity tapered roller bearing |
|---------------------|--------------------------------------|
| Product features    | Tapered adapter sleeve mounting      |
|                     | Effective piston ring seals          |
|                     | Rugged two-piece housing             |
|                     | Heavy duty gray iron housing         |

#### XTS triple lip seal



Combination metal shield and lip that protects bearings from contamination and prevents grease loss. "XTS" stands for Xtra-tough seal. Nitrile rubber lips for less friction & heat. Proven performance in tough environments.

# XTS Plus Seal with optional E-TECT seal kit



Good for use in wet or dusty applications, extends life of bearing in normal applications. Optional "XTS Plus" E-TECT seal kit for harsh environments.  $\hbox{E-TECT seal kit is ordered separately. Kit contains seal and special collar for sizes 5" and$ below. Seal only for above 5".

A mounted spherical roller bearing with a patented easy-on, easy-off adapter mounting

and removal system

# IP spherical roller bearings





**Product description** 

| ISAF spherica | roller bearings |
|---------------|-----------------|
|---------------|-----------------|



| Patented Imperial adapter mounting system, dimensionally interchangeable with SAF style pillow blocks | Product description |
|-------------------------------------------------------------------------------------------------------|---------------------|
| Easy installation – no feeler gauges needed                                                           | Product features    |
| Available with trident triple lip and labyrinth seal options                                          |                     |
| Capable of withstanding static or dynamic misalignment of ± 1                                         |                     |
| Virtually eliminates fretting corrosion                                                               |                     |
| Tapered seal area maintains seal contact during maximum misalignment                                  |                     |
| Factory greased, out-of-the-box ready to install                                                      |                     |

# Mounted roller bearings

|                               | Product description | Mounted spherical roller bearing with built in hydraulic mount and dismount system                                              |
|-------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                               | Available series    | 22200, 23000, and 23100 series                                                                                                  |
|                               | Product features    | Dimensionally interchangeable with SAF style products                                                                           |
|                               |                     | Combination triple-lip and auxiliary sealing system                                                                             |
|                               |                     | High strength ductile iron housing                                                                                              |
| ISN spherical roller bearings |                     |                                                                                                                                 |
|                               | Product description | A mounted spherical roller bearing with metric mounting dimensions that is dimensionally interchangeable with SN style housings |
| _                             | Available styles    | 2-bolt and 4-bolt pillow block                                                                                                  |
|                               | Product features    | Accepts commercial tolerance shafting                                                                                           |
|                               |                     | Available with trident triple lip and labyrinth seal options                                                                    |
|                               |                     | Full concentric shaft attachment with integral adapter sleeve mount                                                             |
|                               |                     | Virtually eliminates fretting corrosion                                                                                         |
|                               |                     | Capable of withstanding static or dynamic misalignment of $\pm1^\circ$                                                          |
|                               |                     | One piece, factory greased, out-of-the-box ready to instal                                                                      |
|                               |                     | Tapered seal land area maintains seal contact during maximum misalignment                                                       |

| Hydraulic ISNX spherical roller | bearings            |                                                                                                            |
|---------------------------------|---------------------|------------------------------------------------------------------------------------------------------------|
|                                 | Product description | A metric dimensioned mounted spherical roller bearing with a built-in hydraulic mount and dismount system. |
|                                 | Product features    | dimensionally interchangeable with SD 3100 style products                                                  |
|                                 |                     | Combination triple-lip and auxiliary sealing system                                                        |
|                                 |                     | High strength ductile iron housing                                                                         |

| S-2000 spherical roller bearing | js                  |                                                                              |
|---------------------------------|---------------------|------------------------------------------------------------------------------|
|                                 | Product description | Mounted spherical roller bearing in a cast iron housing.                     |
|                                 | Product features    | Factory sealed and lubed                                                     |
|                                 |                     | High-capacity, double-row spherical rollers                                  |
|                                 |                     | Permits static or dynamic misalignment of ±1°                                |
|                                 |                     | Available with trident triple lip and labyrinth seal options                 |
|                                 |                     | Tapered seal area maintains seal contact during maximum misalignment         |
|                                 |                     | Spring-lok collar mount with 65° setscrew spacing for optimum clamping force |
|                                 |                     | Available in Type E dimensions and cast steel housings                       |

#### USAF spherical roller bearings



| Product description | A 2 bolt and 4 bolt component based mounted split pillow block with inch mounting |
|---------------------|-----------------------------------------------------------------------------------|
|                     | dimensions and both inch and metric shaft sizes.                                  |

Available series 22200, 22300, 23000, 23100, and 23200

Product features Totally split spherical bearings available

Industry-standard dimensions interchangeable with SAF housings
Five sealing options to match most operating conditions

Cast-in dimples locate drill holes for lube fitting, vents, sensors, and mounting modifications

Standard housings have two oversized drains adaptable for circulating oil systems

Pry slots allow easy separation of the pillow block

# Unisphere® II spherical roller bearings



| Product description | A narrow profile mounted spherical roller bearing                          |  |
|---------------------|----------------------------------------------------------------------------|--|
| Product features    | Comparable mounting dimensions with ball bearing                           |  |
|                     | Features same rolling elements and installation-ready components as S-2000 |  |
|                     | Maintains sealing effectiveness with proven "R" seal                       |  |

Tapered seal area maintains seal contact during maximum misalignment

Spring-lok™ collar mount with 65° setscrew spacing for optimum clamping force

# SNX/SDX spherical roller bearings

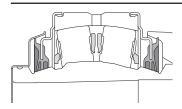


|                                                                                             | _                   |
|---------------------------------------------------------------------------------------------|---------------------|
| A mounted spherical roller bearing that matches industry standard SN and mounting dimension | Product description |
| 22200, 22300, 23000, 23                                                                     | Available series    |
| Multiple seal option                                                                        | Product features    |
| Grease or oil lubricat                                                                      |                     |

# Sealing

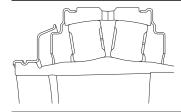
Today, our bearings feature innovative designs; including sealing options that protect the bearings from contamination that can cause failures, and a patented easy-on, easy-off adapter mounting and removal system that provides a concentric grip for superior holding on the shaft.

#### Trident seals



For dirty environments, low-to-medium speeds, and normal ambient conditions, these inserts feature our proven Trident seal. Made of nitrile material, this triple-lip rubbing seal assures a low coefficient of friction, and its seal land maintains full seal contact when misaligned.

#### Labyrinth seals



For higher speeds and temperatures, the inserts offer labyrinth seals with corrosionresistant flingers and a clearance steel seal carrier.

# Mounted ball bearings

When it comes to reliable performance and low maintenance, Dodge mounted ball bearings are unmatched in the industry. These bearings have been engineered with an array of innovative patented features that provide extended life in the toughest applications, including those found in the food and beverage industry.

Dodge mounted ball bearings are available in any of our proven locking devices; our exclusive 65° set screw locking system, eccentric locking collars, D-LOK concentric clamp locking system, and our patented Grip Tight® adapter mounted ball bearing.

| -   | Product description       | A mounted ball bearing with either a reinforced polymer or stainless steel housing with a 440C stainless steel insert |
|-----|---------------------------|-----------------------------------------------------------------------------------------------------------------------|
|     | Available locking devices | 65° set screw                                                                                                         |
| 3   | Product features          | Patented polymer housing includes antimicrobial agent which resists bacterial and fungus growth                       |
|     | _                         | Hydro Armor seal with 4 lip seals and extended metal flinger                                                          |
|     | _                         | Max Life cage that extends grease life                                                                                |
| (3) | _                         | Stainless balls                                                                                                       |
|     | _                         | Metal detectable snap on end covers                                                                                   |

|     | Product description       | A mounted ball bearing with either a reinforced polymer or a stainless steel housing with a corrosion resistant, coated insert |
|-----|---------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|     | Available locking devices | 65° set screw angle (SC), concentric clamp collar (D-LOK), and Grip Tight adapter mount                                        |
| - 0 | Product features          | Patented polymer housing includes anti-microbial agent which resists bacterial and fungus growth                               |
|     | _                         | Hydro Armor seal with 4 lip seals and extended metal flinger                                                                   |
|     | _                         | Max Life cage that extends grease life                                                                                         |
| 6   | _                         | Interchangeable mounting dimensions with most competitive products                                                             |
|     | _                         | Metal detectable snap on end covers                                                                                            |

| Product description       | A mounted ball bearing designed for the harshest environments, equipped with a<br>premium seal, premium cage and synthetic lubrication backed by an extended<br>3 year warranty |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available locking devices | 65° set screw angle (SC), concentric clamp collar (D-LOK), Grip Tight adapter mount,<br>and eccentric lock (SXR)                                                                |
| Product features          | QuadGuard triple-lip seal with rubberized flinger                                                                                                                               |
|                           | Max Life cage that extends grease life                                                                                                                                          |
|                           | Premium synthetic grease – Mobilith SHC 220 PM                                                                                                                                  |
|                           | Snap-on end covers                                                                                                                                                              |

| Set screw ball bearings |                     |                                                                                                                           |
|-------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------|
|                         | Product description | A mounted ball bearing with a 65° set screw angle for greater holding power and ease of<br>installation in confined areas |
|                         | Product features    | DualGuard seal – comprised of single lip seal and rubberized flinger – standard on all SC, SCM ball bearings.             |
|                         |                     | Interchangeable mounting dimensions with most competitive products                                                        |
|                         |                     | Plus or minus 2° static misalignment                                                                                      |
|                         | Available options   | High-temperature to 400°F (204°C) on SC and SCM                                                                           |
|                         | _                   | LL lo torque labyrinth seals                                                                                              |
|                         | _                   | Expansion pillow blocks available for popular shaft sizes                                                                 |
|                         |                     | Snap-on end covers                                                                                                        |

| Grip Tight ball bearings |                     |                                                                                                                                                                   |
|--------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Product description | A mounted ball bearing with a thin wall adapter mounting system that offers 360° full shaft contact and concentricity with no shaft marring or fretting corrosion |
|                          | Product features    | Integral dismount feature easily removes the bearing from the shaft                                                                                               |
| C C C                    | _                   | DualGuard seal – comprised of single lip seal and rubberized flinger – standard on all GT,<br>GTM ball bearings                                                   |
|                          | _                   | Interchangeable mounting dimensions with most competitive set screw, eccentric collar, and concentric clamp collar products                                       |
|                          | _                   | Snap-on end covers                                                                                                                                                |
|                          | _                   | Does not require turned, ground, and polished shafting                                                                                                            |
|                          | Available options   | LL lo torque labyrinth seals                                                                                                                                      |
|                          | _                   | Expansion pillow blocks available for popular shaft sizes                                                                                                         |
|                          | _                   | High-temperature available to 400°F (204°C)                                                                                                                       |

| Product description | A mounted ball bearing designed for ease of installation                                                                                                                          |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product features    | Eccentric collar locks the bearing to the shaft by a quarter turn of the collar in direction of shaft rotation; collar is secured in place with set screw                         |
|                     | DualGuard seal – comprised of single lip seal and rubberized flinger – standard on all SXR ball bearings. Snap-on end covers available from stock for most popular cast housings. |
| _                   | Interchangeable mounting dimensions with most competitive products                                                                                                                |
|                     | Plus or minus 2° static misalignment                                                                                                                                              |
| Available options   | LL lo torque labyrinth seals optional.                                                                                                                                            |
| _                   | Expansion pillow blocks available for popular shaft sizes                                                                                                                         |
|                     | High-temperature option available to 400°F (204°C) on SXR                                                                                                                         |

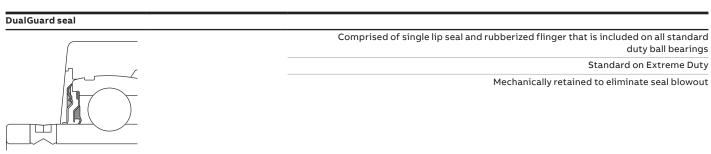
# Mounted ball bearings

| D-LOK concentric clamp collar ba | ll bearing          |                                                                                                                                                                                                                                             |  |
|----------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                  | Product description | A mounted ball bearing designed for improved concentricity minimizing vibration and shaft damage during operation                                                                                                                           |  |
| 663                              | Product features    | Concentric clamp collar locks the bearing to the shaft by tightening a single Allen wrench cap screw; the bearing will not mar the shaft like set screw and eccentric collar bearings; provides concentricity between the bearing and shaft |  |
|                                  | _                   | DualGuard seal – comprised of single lip seal and rubberized flinger – standard on<br>all DL, DLM ball bearings. Snap-on end covers available from stock for most<br>popular cast housings.                                                 |  |
| S. 1. 1. 2.                      | _                   | Interchangeable mounting dimensions with most competitive products                                                                                                                                                                          |  |
|                                  | Available types     | Expansion pillow blocks available for popular shaft sizes                                                                                                                                                                                   |  |
|                                  |                     | Plus or minus 2° static misalignment                                                                                                                                                                                                        |  |
|                                  | _                   | LL lo torque labyrinth seals optional.                                                                                                                                                                                                      |  |
|                                  | _                   | High-temperature option available to 400°F (204°C)                                                                                                                                                                                          |  |

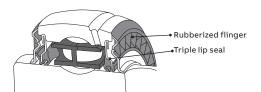
| ER series bal | ll bearings |                            |                                                                                                                                             |
|---------------|-------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
|               |             | Product description        | Extended ring ball bearings designed with a cylindrical OD and snap ring to fit into user equipment.                                        |
|               |             | Product features           | Cylindrical outer diameter with snap-ring retention to fit user equipment                                                                   |
|               |             |                            | Dodge's mechanically-retained ProGuard seal and flinger package to prevent<br>contamination and maximize product life in dirty applications |
|               |             | Availability in two shaft  | Set screw (ER-SC) – 65° set screw angle for maximum shaft grip                                                                              |
|               |             | attachment methods         | D-LOK (ER-DL) – Clamp collar grip for maximum concentricity to minimize vibration                                                           |
|               |             | Size ranges                | Set screw – 204 series (3/4" bore size) through 218 series (3-7/16" bore size)                                                              |
|               |             |                            | D-LOK – 204 series (3/4" bore size) through 212 series (2-7/16" bore size)                                                                  |
|               |             | Other common modifications | Low-drag labyrinth seal offering                                                                                                            |

# Sealing/accessories/advancements

| Non-contact seal design that is ideal for high speed or high temperature application |
|--------------------------------------------------------------------------------------|
| Mechanically retained to eliminate seal blowou                                       |
|                                                                                      |
|                                                                                      |
|                                                                                      |



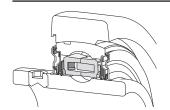
#### Patented QuadGuard seal



This patented triple-lip seal provides three points of contact to keep contaminants out and keep grease in. Rubberized flingers provide external protection, discarding contaminants as it rotates. Molded baffles in the flinger act like a paddle wheel to help deflect liquids.

Mechanically retained to eliminate seal blowout

#### Hydro Armor seal



Four contact lip seals with an extended metal flinger, designed for maximum protection in washdown applications

For E-Z Kleen and Ultra Kleen only

Mechanically retained to eliminate seal blowout

### Snap-on end covers



Common Dodge housing configurations, including Ultra Kleen and E-Z Kleen, are machined with a groove to accept snap-on style polymer end covers that are durable and easy to install. They also include a drain hole to prevent moisture from collecting inside the cover, and help provide positive sealing in wet environments.

# Max Life cage



Patented two piece cage design includes compartments around the rolling elements which reduces contamination ingress and grease washout. The large volume of grease travels with the rolling elements provides a constant oil film for superior performance.

# Mounted plain bearings

Dodge mounted plain bearings are uniquely engineered to provide reliable performance in applications that are exposed to a wide range of severe operating conditions. Plain bearings feature patented technologies that reduce maintenance and ensure long service life.

| Sleevoil® RTL series bearings |                     |                                                                                                                                                            |
|-------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| e#                            | Product description | A base mounted hydrodynamic oil film bearing that utilizes a water cooled design to<br>provide long life in continuous running industrial fan applications |
| -0                            | Product features    | Extended life (no metal-to-metal contact during operation)                                                                                                 |
| - 0                           |                     | Handles moderate to high speeds                                                                                                                            |
|                               |                     | Dampens vibration, provides quiet operation                                                                                                                |
|                               |                     | Fully split for ease of maintenance                                                                                                                        |
| 7- 0 F 6                      | _                   | Self-aligning                                                                                                                                              |
|                               | Available options   | External cooling (air, water, or oil) for hot shafts or high temperatures                                                                                  |
|                               | _                   | RTD's, heater/thermostat combo, circulating oil systems, auxiliary seal kits and isolators                                                                 |

| erio. | Product description | A replacement for legacy units in existing applications, this base mounted oil film bearing utilizes water cooled design that provides long life in continuous industrial fan applications. |
|-------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | Product features    | Extended life (no metal-to-metal contact during operation)                                                                                                                                  |
|       | _                   | Handles moderate to high speeds                                                                                                                                                             |
|       |                     | Dampens vibration, provides quiet operation                                                                                                                                                 |
|       |                     | Fully split for ease of maintenance                                                                                                                                                         |
| 000   | _                   | Self-aligning                                                                                                                                                                               |
| _     | Available options   | External cooling (air, water, or oil) for hot shafts                                                                                                                                        |
|       |                     | RTD's, heater/thermostat combo, circulating oil systems, auxiliary seal kits and isolators                                                                                                  |

|   | Product description | A self-contained oil filtration system designed for use with oil film bearings |
|---|---------------------|--------------------------------------------------------------------------------|
|   | Product features    | Maintains proper oil level while bearing is running                            |
|   |                     | Increases bearing performance and life                                         |
| 6 |                     | Allows even oil distribution and cooler operating temperatures                 |
|   |                     | Ensures filtered clean of                                                      |
|   |                     | Custom-engineered to support Sleevoil bearings                                 |

# Cool lube 2 system



Product descriptionDesigned for oil lubricated roller bearingsProduct featuresContinuous: oil cooling, filtration, and level control

For bearing applications where bearing operating temperatures and speeds approach maximum permissible levels, or harsh & dirty environments

# Solidlube® sleeve bearings



| Product description | A carbon-graphite bearing used in high temperature damper and oven applications where lubrication is critical |
|---------------------|---------------------------------------------------------------------------------------------------------------|
| Housing types       | 2-bolt pillow blocks, 4-bolt and 2-bolt flange units                                                          |
| Product features    | Ideal for slow speeds or oscillating shaft rotation                                                           |
|                     | Self-lubricating, statically self-aligning                                                                    |
|                     | Covers a wide range of temperature extremes                                                                   |
|                     | 700 Series: -40°F to 700°F (-40°C to 370°C)                                                                   |
|                     | 1000 Series: -200°F to -40°F (-128°C to -40°C) and 250°F to 1000°F (120°C to 537°C)                           |
|                     | Ideal where bearings are subject to dry cycles                                                                |

# **Babbitted journal bearings**



| A base mounted, grease lubricated, white metal sleeve bearing  | Product description |
|----------------------------------------------------------------|---------------------|
| Handles slow speeds and shock loads                            | Product features    |
| Capable of MPTA load ratings                                   |                     |
| Cast-iron housings in 2- and 4- bolt pillow blocks             |                     |
| Babbitted bushed bearing features solid or fully split housing |                     |

# Bronze-bushed journal bearings



| A base mounted, grease lubricated, bronze-bushed sleeve bearing | Product description |
|-----------------------------------------------------------------|---------------------|
| Handles slow speeds and offers durability                       | Product features    |
| Capable of MPTA load ratings                                    |                     |
| Cast-iron housings in 2- and 4- bolt pillow blocks              |                     |
| Bronze-bushed bearing features fully split housing              |                     |
| Bronze bushing is split and easily replaced                     |                     |

# Mounted plain bearings

|     | Product description | A mounted bearing with a reinforced polymer housing and polymer sleeve self-<br>lubricating insert |
|-----|---------------------|----------------------------------------------------------------------------------------------------|
|     | Product features    | Polymer housing contains additive that resists bacterial and fungal growth                         |
| 0   |                     | All polymer and stainless steel construction                                                       |
|     |                     | Solid polymer housing has no cavities and no fillings                                              |
|     |                     | Conforms to FDA /USDA specifications                                                               |
| 0 0 |                     | Handles low speeds and light loads                                                                 |
|     |                     | No lubrication required, self-lubricated polymer sleeve insert for<br>maintenance-free operation   |
| _   |                     | Offered in a wide variety of housing configurations and all popular bore sizes                     |
|     |                     | Operates in temperatures from -40°F (-40°C) to 180°F (82°C)                                        |

| Take-up frames |                     |                                                                                                               |
|----------------|---------------------|---------------------------------------------------------------------------------------------------------------|
|                | Product description | Welded steel and cast iron components assembled for a base mounted or side mounted manual screw take-up frame |
| _              | Product features    | 8 take-up frame types from stock                                                                              |
|                | _                   | Standard take-up frame travel from 1-1/2" to 60"                                                              |
|                | _                   | 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<br>chain-type conveyors           |
|                |                     | Telescoping and wide slot take-up frames are available in stainless steel                                     |

GEARING - TIGEAR-2

# Tigear®-2

This line of single reduction, right angle worm gear reducers have been engineered to provide maximum value and durability. Shipped from the factory filled with H1 food grade synthetic lube and a ventless sealing system, the Tigear-2 requires no routine oil changes. An overhung load capacity that is unmatched in the industry provides long life in conveying applications.

|  | Product description | Single reduction, right angle worm gear                    |
|--|---------------------|------------------------------------------------------------|
|  | Case sizes          | 12 case sizes 1.33" to 4.75" center distances              |
|  | Torque              | Up to 6,800 lb-in (770 Nm)                                 |
|  | Ratio               | Nominal ratios from 5 to 60:1                              |
|  | Certifications      | None                                                       |
|  | Product features    | Single-worm with quill, separate or 3-piece coupled input  |
|  |                     | Totally enclosed, ventless design that is maintenance free |

| E-Z Kleen reducers |                     |                                                                                                                                    |
|--------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                    | Product description | Single reduction, right angle worm gear with superior corrosion resistance and sealing<br>designed for harsh washdown applications |
| 0                  | Case sizes          | 8 case sizes with 1.33" to 3.50" center distances                                                                                  |
|                    | Torque              | Up to 3,600 lb-in (410 Nm)                                                                                                         |
|                    | Ratios              | Nominal ratios from 5 to 60:1                                                                                                      |
|                    | Certifications      | IP69 for water                                                                                                                     |
|                    | Product features    | Coating system that provides greater than three times the corrosion resistance of standard epoxy painted units                     |

|   | Product description | Single reduction, right angle worm gear with 300 series stainless housing, laser marked<br>nameplate and sealing designed for harsh washdown applications |
|---|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Case sizes          | 4 case sizes with 1.75" to 3.00" center distances                                                                                                         |
| 0 | Torque              | Up to 2,300 lb-in (260 Nm)                                                                                                                                |
|   | Ratio               | Nominal ratios from 5 to 60:1                                                                                                                             |
|   | Certifications      | IP69 for water                                                                                                                                            |
|   | Product features    | 300 series stainless steel solid and hollow output shafts and stainless hardware                                                                          |
|   |                     | Two piece harsh duty output seals                                                                                                                         |

# Accessories



# **Bushing kit**

• Easy on, easy off Grip Tight tapered bushing system.



# Helical attachment

 Provides a convenient way to increase the overall ratio and achieve a low output speed

Stainless steel solid and hollow output shafts and stainless hardware

Higher torque ratings than competition

Grip Tight bushing system available

Two piece harsh duty output seals

Solid or hollow output

- Easily attaches to a Tigear-2 reducer with 56C and 140TC quill or 3-piece coupled input
- No breather

# **Quantis®**

The Dodge Quantis line of modular gear drives are engineered for flexibility and performance. Utilizing helical and bevel gearing, the Quantis offers a torque dense design, a wide ratio range and an efficiency of 98% per stage.

| Quantis in-line helical (ILH) |                      |                                                                                                                                            |
|-------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                               | Product description  | The Quantis ILH uses all helical gearing in a cost effective, power dense in-line solution.  The ILH can be either flange or foot mounted. |
|                               | Sizes                | 38, 48, 68, 88, 108,128,148, and 168                                                                                                       |
|                               | Certifications       | ATEX                                                                                                                                       |
|                               | Torque ratings       | 122,000 lbin. (Up to 14,000 Nm)                                                                                                            |
|                               | Ratio                | 1.4 to 7,670:1                                                                                                                             |
|                               | Output shaft options | Solid                                                                                                                                      |

| Quantis right-angle helical bev | /el (RHB)            |                                                                                                                                                                                                                                        |
|---------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | Product description  | The Quantis RHB product line uses helical-bevel gearing to provide a solution for a wide variety of applications. With an assortment of shaft and accessory options, it is can be used in shaft mounted or foot mounted installations. |
|                                 | Sizes                | 38, 48, 68, 88, 108, 128,148, and 168                                                                                                                                                                                                  |
|                                 | Certifications       | Atex                                                                                                                                                                                                                                   |
|                                 | Torque ratings       | 119,000 lbin. (Up to 13,500 Nm)                                                                                                                                                                                                        |
|                                 | Ratio                | 4.8 to 7,735:1                                                                                                                                                                                                                         |
|                                 | Output shaft options | Solid, straight hollow, twin tapered bushing hollow, Q-Loc keyless hollow and shrink disk                                                                                                                                              |

| Quantis motorized shaft me | ount (MSM)           |                                                                                                  |
|----------------------------|----------------------|--------------------------------------------------------------------------------------------------|
|                            | Product description  | The Quantis MSM is an all helical gearing solution, and ideal for shaft<br>mounted applications. |
|                            | Sizes                | 38, 48, 68, 88, 108, 128,148, and 168                                                            |
|                            | Certifications       | Atex                                                                                             |
|                            | Torque ratings       | 119,000 lbin. (Up to 13,500 Nm)                                                                  |
|                            | Ratio                | 6.7 to 7,670:1                                                                                   |
|                            | Output shaft options | Solid, straight hollow, twin tapered bushing hollow, Q-Loc keyless hollow and shrink disk        |

# Accessories



#### Internal backstop

Helps prevent reverse rotation in high stop-start loads, resulting in less wear and longer life. The centrifugal throw out design eliminates sprag sliding and reduces wear. It operates with standard and EP lubricants and requires no external lubrication. (Offered in units built in U.S. only.)



# RHB torque arm bracket

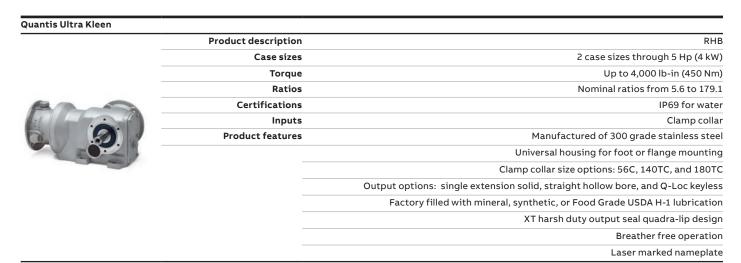
For RHB shaft mounted applications using the "BF" style housing. The RHB torque arm bracket includes the bracket and hardware.



# RHB tie rod kit

RHB tie rod kit includes mounting bracket, adjustable length torque arm and fulcrum with fasteners. Utilizing the "BF" style housing

| Quantis E-Z Kleen |                     |                                                                                                          |
|-------------------|---------------------|----------------------------------------------------------------------------------------------------------|
|                   | Product description | ILH, RHB and MSM                                                                                         |
|                   | Case sizes          | 5 case sizes through 40 Hp (30 kW)                                                                       |
| _                 | Torque              | Up to 27,000 lb-in (3,100 Nm)                                                                            |
| -                 | Ratios              | Nominal ratios from 1.4 to 7,735:1                                                                       |
| 2 131             | Certifications      | IP69 for water                                                                                           |
| J.                | Inputs              | Integral clamp collar or 3-piece coupled input                                                           |
|                   | Product features    | Unique coating system provides greater than three times the corrosion resistance of standard epoxy paint |
|                   |                     | White or stainless steel color top coat                                                                  |
| ,                 |                     | XT harsh duty output seal quadra-lip design                                                              |
|                   |                     | Thin Dense Nickel Composite (TDNC) plated output shafts                                                  |
|                   |                     | Non-cavity hardware                                                                                      |
|                   |                     | Factory filled with mineral, synthetic, or Food Grade USDA H-1 lubrication                               |
|                   |                     | Water tight gasket on C-face input between motor and reducer                                             |





# ILH adjustable slide bases

Positions the reducer, providing simplified installation and servicing of the belt and chain drives. Position changes to obtain the desired belt or chain tension are easily accomplished by using the supplied adjusting screw



# ILH scoop mount

Scoop mounts are steel fabricated assemblies to provide customers with alternative means of supporting the motor



**Banjo Torque Arm**For RHB shaft mount applications the Torque Arm provides a compact means for restraining the reducer. Available  $\,$ in zinc plated or stainless steel

# **Torque-Arm family**

This powerful line of shaft mount gear reducers deliver superior performance in harsh duty applications.

|       | Product description | Heavy duty, compact, right angle direct drive gear reducer, built to withstand shock<br>loads and survive in harsh environments |
|-------|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
|       | Sizes               | 7 case sizes from 3 - 100 Hp (1.5 to 75kW)                                                                                      |
|       | Torque              | Up to 130,000 lbin. (14,700 Nm)                                                                                                 |
|       | Ratios              | Nominal ratios range from 18-80 :1                                                                                              |
|       | Certifications      | Third party ATEX certified                                                                                                      |
|       |                     | Meets or exceeds AGMA standards                                                                                                 |
| -2000 | Product features    | Heavy duty, dual sealing system is standard for maximum protection in<br>harsh environments                                     |
|       |                     | Compatible with both synthetic and mineral oil with or without extreme pressure (EP) additives                                  |
|       |                     | Utilizes twin tapered bushings, to allow for easy on and easy off mounting which increases operating time                       |
|       |                     | Compatible with field installed backstop to maximize safety in all applications<br>and industries                               |

### Modular accessories



# Tie rod

Provides safety link between gear reducer and structure to prevent system rotation. Standard rods and turnbuckles are zinc coated providing corrosion resistance



# Twin tapered bushings

Easy-on, easy-off accessory providing reliable support on both sides the gear reducer. Available for inch and metric shafts



# **Bushing covers**

Protect workers from rotating bushings, MTA and TAII reducers are drilled and tapped to accept ABS robust plastic covers



# Breather

Optional harsh duty breathers extend operating life

| Torque-Arm II |                     |                                                                                                        |
|---------------|---------------------|--------------------------------------------------------------------------------------------------------|
|               | Product description | Shaft mounted heavy duty gear reducer designed to increase equipment uptime<br>and provide longer life |
| _             | Sizes               | 12 sizes through 400 Hp (300 kW)                                                                       |
|               | Torque              | Up to 325,000 lbin. (36,700 Nm)                                                                        |
|               | Ratios              | 5 ratios available with v-belt drives extending the range up to 300:1                                  |
|               | Certifications      | Third party ATEX certified                                                                             |
| 0 -0          |                     | Meets or exceeds AGMA standards                                                                        |
|               | Product features    | Industry proven, twin tapered bushings allow for easy-on and easy-off mounting                         |
|               |                     | Improved safety features with the use of bushing cover and belt guards                                 |
|               |                     | Heavy duty, dual sealing system is standard for maximum protection in harsh environments               |
|               |                     | Compatible with both synthetic and mineral oil with or without extreme (EP) pressure                   |

| TXT Torque-Arm family |                     |                                                                                                                                                         |
|-----------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| or S roa              | Product description | Shaft mount gear reducer, providing superior performance in heavy duty industries maximizing equipment uptime and providing longer overall product life |
| 710:8                 | Sizes               | 14 sizes up to 700 Hp                                                                                                                                   |
|                       | Torque              | Up to 1,000,000 lbin.                                                                                                                                   |
|                       | Ratios              | 4 ratios available with v-belt drives extending the range up to 300:1                                                                                   |
|                       | Certifications      | Meets or exceeds AGMA standards                                                                                                                         |
|                       | Product features    | Harsh duty seals compatible with mineral or synthetic lubricant                                                                                         |
|                       |                     | Dodge twin tapered bushing system, which allow for easy on easy off mounting                                                                            |



providing the most reliable mounting system in the industry



# Backstop

Safety feature that prevents reverse rotating when system stops. Compatible with standard and EP lubricants without requiring external lubrication



#### **Motor mount**

Provides stable mounting between motor and reducer to minimize overhung load and withstand heavy shock loads



# Belt guard

Design allows for multiple height adjustments, featuring a lift-off cover construction



# Screw conveyor accessories

CEMA adapter, adjustable packaging kit, and three hole drive shafts allow for quick installation

# Maxum XTR concentric gear reducer

Maxum XTR gear reducers feature a rugged, compact design that performs in heavy duty applications. With a housing made of high strength ductile iron and high capacity overhung load ratings, this gear reducer is optimized for the best total system value in the market.

# Product description Concentric, inline gear reducer designed with heavy duty features, including rugged ductile iron housings, tapered bearings, and superior sealing system to extend operating life Sizes 9 sizes up to 1,600 Hp Torque Up to 579,000 lb.-in. Ratios Nominal ratios from 2.25 to 194.6:1 Certifications Meet or exceeds AGMA standards

# **Accessories**



# Scoop packages:

Utilizing either Dodge Raptor or Grid Lign couplings, these fabricated steel scoop packages are economical and compact way to connect the motor to the reducer

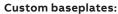


Provides simplified installation and ease of servicing belts and chain drives that connect the reducer to the driven equipment



# Top motor mount:

Reduce floor space required by utilizing this to mount NEMA or IEC motors on top of the gear reducer



Custom designed solutions for easy alignment of any motor or coupling



#### Cooling fans:

Economical way to utilize the gear reducers mechanical rating. Options include mechanical or electrical fans



#### **Backstops:**

- Optional backstops are available to prevent reverse rotation on inclined conveyors.
- Operates with standard and EP lubricants

# Heat exchangers:

- Optional accessory available to extend thermal capacities beyond the range of cooling fans
- These are also available for applications with high ambient temperatures

# Magnagear XTR®

Dodge Magnagear XTR is a simple, power-dense reducer that offers increased reliability in a compact, heavy-duty package. Engineered with proven planetary and helical gear technology, this reducer is ideally suited for a variety of high torque applications.

With the reducer's standard, premium quality, tandem sealing system and cooling system, you can always depend on low-maintenance operation and maximum value for your money.

| Magnagear XTR |                          |                                                                                                                                                                         |
|---------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Product description      | A heavy-duty, power dense, high torque reducer                                                                                                                          |
| -             | Case sizes               | 12 sizes from 40 to 5,010 Hp (20 to 3,240 kW)                                                                                                                           |
|               | Torque range             | From 100,000 to 3,500,000 lbin. (11,300 to 395,000 Nm)                                                                                                                  |
|               | Available configurations | Parallel shaft or right angle                                                                                                                                           |
|               | Available output         | Solid or hollow shaft                                                                                                                                                   |
| 42,720        | Product features         | Rugged cast iron housings                                                                                                                                               |
| 7/            | _                        | Gearing is carburized, hardened, and precision ground                                                                                                                   |
|               |                          | Premium tandem taconite seal system is standard with the oil seal protected by a contact excluder lip seal and grease cavity                                            |
|               |                          | All bearings exceed best in class standards for $L_{_{10}}$ life                                                                                                        |
|               | _                        | Can be used with a variety of soft start mechanisms including VFD and fluid couplings                                                                                   |
|               | Capabilities & mounting  | Modular design for reversibility and multiple mounting configurations,<br>minimizing spare requirements                                                                 |
|               | _                        | 4-sided mounting configurations                                                                                                                                         |
| The second    | _                        | Base and swing base mountings                                                                                                                                           |
| A STATE       | _                        | Tunnel housings                                                                                                                                                         |
|               | _                        | Proven planetary design is utilized in sizes over 390,000 lbin. (44,000 Nm) to provide a compact, durable, light weight, economic solution for high torque applications |
|               | Engineered options       | Internal lift-off style backstops                                                                                                                                       |
|               | _                        | Shaft and electric fans                                                                                                                                                 |
|               |                          | Torque arms                                                                                                                                                             |
|               |                          | Tunnel drive alignment free configurations                                                                                                                              |
|               | _                        | Baseplates                                                                                                                                                              |
|               | _                        | Inching drives                                                                                                                                                          |

# **Magnagear XTR**

# Dodge twin-tapered bushing option



Provides easy installation and removal of reducer from shaft Provides sturdy, concentric grip on the driven shaft on both sides of the reducer Eliminates the wobble and fretting corrosion associated with straight bore and single bushed reducers Full length key guarantees maximum torque transmission Installation and removal methods require no special tools

Available up to sizes G600 and below

Parallel

| Magnagear<br>XTR model | Nm      | kW<br>rating<br>range | Нр           | Gear<br>ratio |
|------------------------|---------|-----------------------|--------------|---------------|
| G100                   | 11,520  | 30 to 180             | 45 to 295    | 8:1 to 63:1   |
| G150                   | 18,530  | 40 to 290             | 65 to 465    | 8:1 to 63:1   |
| G210                   | 25,420  | 60 to 400             | 100 to 645   | 8:1 to 63:1   |
| G285                   | 34,575  | 85 to 585             | 140 to 940   | 8:1 to 63:1   |
| G390                   | 48,470  | 120 to 795            | 195 to 1280  | 8:1 to 63:1   |
| G525                   | 63,160  | 350 to 1000           | 565 to 1545  | 8:1 to 28:1   |
| G600                   | 74,400  | 192 to 1450           | 309 to 1769  | 8:1 to 63:1   |
| G700                   | 82,480  | 455 to 1390           | 735 to 2135  | 8:1 to 28:1   |
| G920                   | 108,465 | 610 to 1810           | 980 to 2850  | 8:1 to 28:1   |
| G1400                  | 155,810 | 620 to 1875           | 995 to 3015  | 12:5 to 38:1  |
| G2100                  | 240,880 | 1055 to 2750          | 1695 to 4425 | 12:5 to 35:1  |
| G3500                  | 389,800 | 1610 to 4590          | 2595 to 7390 | 18:1 to 38:1  |

Right angle

| Magnagear<br>XTR model | Nm      | kW<br>rating | Нр           | Gear<br>ratio |
|------------------------|---------|--------------|--------------|---------------|
| XIXIIIOGEI             |         | range        |              | Tatio         |
| G100                   | 11,410  | 30 to 125    | 45 to 199    | 12:5 to 63:1  |
| G150                   | 18,420  | 45 to 200    | 75 to 315    | 12:5 to 63:1  |
| G210                   | 25,310  | 60 to 275    | 100 to 440   | 12:5 to 63:1  |
| G285                   | 35,360  | 85 to 350    | 140 to 565   | 12:5 to 63:1  |
| G390                   | 44,520  | 105 to 415   | 175 to 665   | 12:5 to 63:1  |
| G525                   | 67,340  | 165 to 655   | 265 to 1015  | 12:5 to 63:1  |
| G600                   | 75,500  | 192 to 688   | 309 to 1043  | 12:5 to 63:1  |
| G700                   | 87,900  | 215 to 900   | 345 to 1385  | 12:5 to 63:1  |
| G920                   | 115,700 | 285 to 1145  | 460- 1765    | 12:5 to 63:1  |
| G1400                  | 158,920 | 390 to 1670  | 630 to 2685  | 12:5 to 63:1  |
| G2100                  | 245,700 | 585 to 2500  | 940 to 4025  | 12:5 to 63:1  |
| G3500                  | 397,600 | 1305 to 4180 | 1565 to 6725 | 18:1 to 63:1  |

Approximate power ratings at 1.0 SF

Assumes 1750 rpm for Hp ratings and 1450 rpm for kW ratings

# **Controlled Start Transmission (CST)**

With Dodge CST drives, you get consistent, controlled starts and stops with enough power to drive the largest and longest conveyors. The CST is a 2 in 1 gearbox that combines a planetary gear reducer with an integral wet clutch system. When coupled to an AC induction motor the CST gearbox converts the motors high-speed, low-torque input to a low-speed, high-torque output, delivering total control of even the most heavily loaded conveyors.

| Dodge CST  |                     |                                                                                                                                                                       |
|------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | System features     | Controlled acceleration and deceleration ramps                                                                                                                        |
| - Daniel   |                     | Parabolic starting curves                                                                                                                                             |
| · Jorga'   |                     | Adjustable acceleration times                                                                                                                                         |
| 19 19 1 kg |                     | Deceleration (not braking) ramps                                                                                                                                      |
|            |                     | Multiple starting duty                                                                                                                                                |
| 300        |                     | Cooling system designed for repeated starts                                                                                                                           |
|            |                     | Drive motor may be left running between starts                                                                                                                        |
|            | System benefits     |                                                                                                                                                                       |
|            | Motor               | Using a CST start system, the motor is at full speed prior to loading, therefore the ful<br>breakdown torque of the motor is available without a special motor design |
|            |                     | No load starts                                                                                                                                                        |
|            |                     | Frequent motor starts eliminated                                                                                                                                      |
|            | Power grid          | Minimizes voltage drops via sequenced motor starts where multiple drives are utilized                                                                                 |
| A THOUSAND |                     | kW demand reduced by unloaded motor starts                                                                                                                            |
| Z.E.       | Gearing             | Protected from shocks by clutch mechanism                                                                                                                             |
|            |                     | Efficient planetary design                                                                                                                                            |
|            | Conveyor components | Delivers optimal motor load sharing to minimize the loads and stresses on al<br>conveyor components                                                                   |
|            |                     | Hydro-viscous clutch located at output of the CST absorbs transient shocks                                                                                            |
|            |                     | Parabolic acceleration ramp minimizes belt and pulley stresses                                                                                                        |

# The CST package

A complete engineered drive package can be supplied that will include:

- Dodge CST
- IEC or NEMA motor
- Drive base
- Dodge couplings
- Flywheels
- Dodge engineered class conveyor pulleys
- Dodge mounted bearings
- PLC control system

# **Couplings**

Uniquely engineered for easier installation, longer driven equipment life, and increased reliability in a broad range of applications. Dodge has manufactured couplings for over 100 years, earning a reputation for developing innovative products that lower customers' total cost of ownership.

The Dodge coupling product line can offer a solution to almost any customer need. Whether the need is an elastomeric or metallic design, Dodge can provide a coupling with the potential to increase torque capacity, accommodate shaft misalignment, extend life, improve operational efficiency, and reduce unexpected downtime.

| Raptor coupling | Duaduat description |                                                                       |
|-----------------|---------------------|-----------------------------------------------------------------------|
| _               | Product description | Elastomeric, split tire style                                         |
|                 | Bore size           | Up to 9" (229 mm)                                                     |
|                 | Torque range        | 340,340 lbin. (up to 38,438 Nm)                                       |
|                 | Available elements  | Flexible natural rubber, WingLock™ technology                         |
|                 | Certification       | Third-party ATEX certified                                            |
| go              | Product features    | Industry leading misalignment capabilities                            |
| SE SE SE        |                     | Drop-in interchange without any modifications or additional materials |
| de la           |                     | Longer driven equipment life                                          |
|                 |                     | Maintenance free element                                              |
|                 |                     | Taper-Lock bushed hubs for clean, compact installation                |
|                 |                     | Slotted clamp ring holes offer 187% more hardware clearance           |
|                 |                     | Industry leading 5-year warranty                                      |

| Para-Flex® coupling |                     |                                                                                                   |
|---------------------|---------------------|---------------------------------------------------------------------------------------------------|
|                     | Product description | A flange-mounted elastomeric tire style coupling                                                  |
|                     | Bore size           | Up to 8" (203 mm)                                                                                 |
|                     | Torque range        | Up to 453,000 lbin. (51,180 Nm)                                                                   |
|                     | Available elements  | Natural rubber, Neoprene, and cordless                                                            |
|                     | Certification       | Third-party ATEX certification standard                                                           |
|                     | Product features    | Industry leading misalignment 4° angular, 1/8" (3.1 mm) parallel, and<br>5/16" (7.8 mm) end float |
|                     |                     | Industry leading 5-year warranty                                                                  |
|                     |                     | Taper-Lock®, ductile iron FBX finished bore, and steel BBS bored-to-size flanges                  |
|                     |                     | "Problem solver" element absorbs shock and dampens vibrations                                     |
|                     |                     | No maintenance- non-lubricated design assures trouble-free operation                              |





| Poly-Disc |                     |                                                          |
|-----------|---------------------|----------------------------------------------------------|
|           | Product description | Elastomeric coupling with a polyurethane flexible disc   |
| 6         | Product features    | Polyurethane flexible disc resists chemical attack       |
|           |                     | Allows 2° of angular misalignment & cushions shock loads |
|           |                     | Accommodates up to 3-1/4" bores and 10,900 lbin.         |

| D-Flex coupling |                     |                                                                               |
|-----------------|---------------------|-------------------------------------------------------------------------------|
| _               | Product description | An elastomeric sleeve style coupling                                          |
|                 | Bore size           | Up to 6" (140 mm)                                                             |
| 1000            | Torque range        | Up to 72,480 lbin. (8189 Nm)                                                  |
|                 | Available types     | Close-coupled and Type SC spacer designs                                      |
|                 | Available elements  | EPDM, Neoprene, and Hytrel                                                    |
| A               | Certification       | Third-party ATEX certification standard                                       |
|                 | Product features    | Four-way flexing action handles shock, vibration, and misalignment            |
|                 |                     | Simple design and interchangeable components make installation quick and easy |
|                 |                     | Ionized powder coat finish for superior corrosion protection                  |
|                 |                     | Quick, easy installation – no maintenance required                            |
|                 |                     | AGMA 9 dynamically balanced Type S and SC flanges                             |
|                 |                     | Available in all common metric (ISO) and inch (ANSI)                          |

| Grid-Lign coupling |                     |                                                                            |
|--------------------|---------------------|----------------------------------------------------------------------------|
|                    | Product description | A flexible metallic lubricated tapered grid style coupling                 |
|                    | Bore size           | Standard range (1080T-1200T) accommodates up to 13" (360 mm)               |
|                    |                     | S-Series range through 21.85" (555 mm)                                     |
|                    | Torque range        | Standard range (1080T-1200T) 1,650,665 lbin. (186,417 Nm)                  |
|                    |                     | S-Series range through 7,000,000 lbin. (8,000,000 Nm)                      |
| 4 - 6 -            | Certification       | ATEX                                                                       |
|                    | Available designs   | T10, T20 close-coupled                                                     |
|                    |                     | T35 half-spacer and T31 full spacer designs through size 1200T             |
|                    | Product features    | Torque density and large bore capacities of a metallic coupling            |
|                    |                     | Misalignment and vibration damping capabilities of an elastomeric coupling |
|                    |                     | Spacer designs can be used with brake discs or drums                       |

# Couplings

# DGF Gear coupling



| Product description | A flexible metallic lubricated gear style coupling                        |  |
|---------------------|---------------------------------------------------------------------------|--|
| Bore size           | Up to 42" (1050 mm)                                                       |  |
| Torque range        | Up to 47,269,000 lbin. (5,340,000 Nm) torque                              |  |
| Available designs   | Spacer, floating shaft, slide gear, and other customizable designs        |  |
| Product features    | Most power-dense metallic coupling availa                                 |  |
|                     | Crowned tooth profile for longer life                                     |  |
|                     | Interchangeable with industry standard AGMA gear couplings through size 9 |  |
|                     | Customizable features allow for use in virtually any application          |  |

# Taper-Lock rigid



| Product description | Rigid coupling utilizing taper lock bushings             |
|---------------------|----------------------------------------------------------|
| Product features    | Taper-Lock bushing connects varying diameter shaft sizes |
| _                   | Flanges are all machined, and require no maintenance     |
|                     | Accommodates up to 6" horse and 254 500 in the           |

# Ribbed rigid



| Product description | Clamp fit mechanical coupling                              |
|---------------------|------------------------------------------------------------|
| Product description | Clamp III mechanical coupling                              |
| Product features    | Rated load capacities of 1018 shafting                     |
|                     | Connects same diameter shafts via compression fit clamping |
|                     | Accommodates up to 7" bores and 404,000 lbin.              |

# DM Moment coupling



| A rigid metallic coupling for large gearbox applications                                                  | Product description |
|-----------------------------------------------------------------------------------------------------------|---------------------|
| Up to 15" (385 mm)                                                                                        | Bore size           |
| Up to 2,100,000 lbin. (237,268 Nm)                                                                        | Torque range        |
| Engineered to transmit torque and support the bending moment forces of an entire<br>gearbox drive package | Product features    |
| Design reduces overall costs by allowing for an alignment free<br>gearbox drive package                   |                     |
| ISO Grade 10.9 bolts                                                                                      |                     |
| Male and female piloted hubs manufactured from 4140 alloy stee                                            |                     |

Chain

| et es          | Product description | Metallic chain coupling in a compact design                             |
|----------------|---------------------|-------------------------------------------------------------------------|
|                | Product features    | Available with reborable, finished bore or Taper-Lock flanges           |
|                |                     | Compact design offers high torque capability                            |
|                |                     | Accommodates up to 4-11/16" bores and 1,273 Hp applications             |
| Fluid coupling |                     |                                                                         |
| Plana coupling | Product description | A fluid filled mechanical soft start coupling                           |
|                | Available designs   | Standard, single, and double delay fill                                 |
|                | Available styles    | Drive style (sheave), and coupling style (Para-Flex & Gear)             |
|                | Product features    | Mechanical soft start dampens shock load and reduces motor current draw |
|                |                     | Smooth, controlled acceleration with customizable startup torques       |
|                |                     | Accommodates applications 1840 kW at 1450 rpm (1360 Hp at 1750 rpm)     |
| Flexidyne®     |                     |                                                                         |
|                | Product description | Steel shot mechanical soft start coupling                               |
|                | Product features    | Mechanical soft start via flow charge (cast steel pellets) fill         |
|                |                     | 100% efficient, no slippage                                             |
|                |                     | Available in three designs: drive, coupling and C-flex                  |
|                |                     | Accommodates up to 4.5" shaft and 250 Hp applications                   |

\*NOTE: Gear coupling and fluid coupling has been obsoleted.

# **Drive components**

Dodge mechanical drive components offer innovative designs and reliable performance that improve energy efficiency and lower you total cost of ownership. All Dodge drive components are manufactured to meet or exceed MPTA standards.

# HT500 synchronous belt drives



| <b>.ilable pitches</b> 8 mm and 14 mm pitch with industry star                                                                                  | ndard widths                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>duct features</b> 98% efficient drive system compared to 93% for                                                                             | V-belt drives                  |
| Less overhung load than v-belt drives and reduces maintenance costs as th<br>not require r                                                      | hese belts do<br>retensioning. |
| Durable polyurethane belt construction resists chemicals, oils, pollutants,                                                                     | and abrasion                   |
| Belt can operate in temperatures up to 185°F (85°C) and as low as                                                                               | -65°F (-54°C)                  |
| Belt features robust carbon tensile cords that combine minimal stretch with e<br>strength and load carrying capacity, while absorbing shock and | ,                              |
| Standardized with a taper-lock bushing system that delivers more torque,<br>shaft space, reduces bearing loads, and are easy to mount a         |                                |

#### HT250 synchronous belt drives



| Available pitches | 8 mm and 14 mm with various widths                                                                                            |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Product features  | 98% efficient drive system compared to 93% for V-belt drives                                                                  |
|                   | Fiberglass tensile cord provides high strength, excellent flex life, and high resistance to elongation                        |
|                   | Good for use in hazardous environment like enclosed grain as this product is static<br>conductive in accordance with ISO 9583 |
| _                 | Greater belt lengths make this a good option for converting expensive, long center                                            |



| Available sizes from stock | Complete bushing offering from size 1008 up to 120100 featuring extended bore sizes and our exclusive integral key taper lock bushing |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Available materials        | Bushings available in sintered steel, cast iron, ductile iron, steel, and stainless steel                                             |
| _                          | Sheaves available in both narrow (3V,5V,8V) and classical (A,B,C) profiles; From 1 to 12 grooves and up to 53" diameter               |
| Product features           | Easy to install and remove                                                                                                            |
|                            | Requires less shaft space                                                                                                             |
| _                          | Only manufacturer that offers an integral key bushing which provides a potential 8-10%                                                |

customer savings in material and labor Reduce bearing loads Engineered with an 8° taper

Available in metric and inch bores

#### Idler brackets and bushings





| Product features | Double adjustable bracket for maximum flexibility                             |
|------------------|-------------------------------------------------------------------------------|
|                  | Positive ratchet locking between base and arm                                 |
|                  | Idler bushings available in Taper-Lock and QD                                 |
|                  | Use with standard Dodge sheaves, synchronous sprockets, and flat face pulleys |
| -                | Compatible with products machined for Taper-Lock 1610, 2012 and 2517 bushings |
|                  |                                                                               |

|                            | Available sizes from stock                                                                            | Complete bushing offering from size JA to S featuring extended bore sizes                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | _                                                                                                     | Sheaves available in both narrow (3V, 5V, 8V) and classical (A,B,C,D) profiles; From 1 to 12 grooves and up to 71" diamete                                                                                                                                                                                                                                                                                                                                                                      |
|                            | Available materials                                                                                   | Sintered steel, cast iron, and ductile iron                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                            | Product features                                                                                      | Easy on/easy of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                            | _                                                                                                     | Conventional or reverse mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                            | _                                                                                                     | Available in metric and inch bore sizes                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                            |                                                                                                       | Manufactured to MPTA standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| plit Taper sheaves and bus | hings                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                            | Available sizes from stock                                                                            | Bushing offering from size G to S1 including our exclusive H-Plus integral key bushing ir<br>9 popular shaft sizes                                                                                                                                                                                                                                                                                                                                                                              |
|                            |                                                                                                       | Sheaves available in one common B5V profile accommodating A, B, and 5V belts; from 1-6 grooves and up to 30" diameter                                                                                                                                                                                                                                                                                                                                                                           |
|                            | Product features                                                                                      | Keyed to both shaft and hub, the external key provides positive drive with no torque on the cap screws                                                                                                                                                                                                                                                                                                                                                                                          |
|                            | _                                                                                                     | Double split bushing barrel improves true concentricity – grips the shaf<br>with positive clamp fit                                                                                                                                                                                                                                                                                                                                                                                             |
|                            | _                                                                                                     | Preferred bushing style in the HVAC industry                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 6                          |                                                                                                       | ABB exclusive integral key H-plus bushings provide a potential 8-10% customer savings in material and labor                                                                                                                                                                                                                                                                                                                                                                                     |
|                            |                                                                                                       | Black powder coat for excellent corrosion resistance                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                            |                                                                                                       | More diameters offered than the competition providing customers a larger variety of drive options and flexibility with output speeds                                                                                                                                                                                                                                                                                                                                                            |
|                            |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| aht duty/HVAC sheaves an   | nd bushings                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ght duty/HVAC sheaves an   |                                                                                                       | AV /BV AVII /BVII (up to 20 Hp), 1 and 2 groupes pitch range offered as bushed (uses H                                                                                                                                                                                                                                                                                                                                                                                                          |
| ght duty/HVAC sheaves an   | nd bushings<br>Available sizes from stock -<br>Fixed pitch sheaves                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ght duty/HVAC sheaves ar   | Available sizes from stock -                                                                          | bushings) and fixed bore (2 setscrews for tighter grip)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ght duty/HVAC sheaves ar   | Available sizes from stock -                                                                          | bushings) and fixed bore (2 setscrews for tighter grip)  AL (up to 2 Hp); OEM product (bulk packed)                                                                                                                                                                                                                                                                                                                                                                                             |
| ight duty/HVAC sheaves ar  | Available sizes from stock -<br>Fixed pitch sheaves                                                   | bushings) and fixed bore (2 setscrews for tighter grip)  AL (up to 2 Hp); OEM product (bulk packed)  VL (up to 5 Hp): OEM product (bulk packed); designed to be used with AL sheaves  1VP/2VP (up to 25 Hp): 1 and 2 grooves; pitch range 1.9" to 6.7" (A belt)                                                                                                                                                                                                                                 |
| ight duty/HVAC sheaves ar  | Available sizes from stock - Fixed pitch sheaves  Available sizes from stock -                        | bushings) and fixed bore (2 setscrews for tighter grip)  AL (up to 2 Hp); OEM product (bulk packed)  VL (up to 5 Hp): OEM product (bulk packed); designed to be used with AL sheaves  1VP/2VP (up to 25 Hp): 1 and 2 grooves; pitch range 1.9" to 6.7" (A belt)  and 2.4" to 7.0" (B belt)                                                                                                                                                                                                      |
| ight duty/HVAC sheaves an  | Available sizes from stock - Fixed pitch sheaves  Available sizes from stock -                        | bushings) and fixed bore (2 setscrews for tighter grip)  AL (up to 2 Hp); OEM product (bulk packed)  VL (up to 5 Hp): OEM product (bulk packed); designed to be used with AL sheaves  1VP/2VP (up to 25 Hp): 1 and 2 grooves; pitch range 1.9" to 6.7" (A belt)  and 2.4" to 7.0" (B belt)                                                                                                                                                                                                      |
|                            | Available sizes from stock - Fixed pitch sheaves  Available sizes from stock - Variable pitch sheaves | bushings) and fixed bore (2 setscrews for tighter grip),  AL (up to 2 Hp); OEM product (bulk packed)  VL (up to 5 Hp): OEM product (bulk packed); designed to be used with AL sheaves  1VP/2VP (up to 25 Hp): 1 and 2 grooves; pitch range 1.9" to 6.7" (A belt)  and 2.4" to 7.0" (B belt)  MVS (up to 40 Hp): 2 grooves; used with A, B, 3V, & 5V belts                                                                                                                                       |
| ight duty/HVAC sheaves an  | Available sizes from stock - Fixed pitch sheaves  Available sizes from stock -                        | AK/BK, AKH/BKH (up to 20 Hp); 1 and 2 grooves; pitch range offered as bushed (uses H bushings) and fixed bore (2 setscrews for tighter grip)  AL (up to 2 Hp); OEM product (bulk packed)  VL (up to 5 Hp): OEM product (bulk packed); designed to be used with AL sheaves  1VP/2VP (up to 25 Hp): 1 and 2 grooves; pitch range 1.9" to 6.7" (A belt)  and 2.4" to 7.0" (B belt)  MVS (up to 40 Hp): 2 grooves; used with A, B, 3V, & 5V belts  D-V wedge belts (3V, 5V, 8V), cogged and wrapped |

# Heavy and mine duty conveyor pulleys

Dodge heavy and mine duty conveyor pulleys have been operating in the world's most demanding material handling applications for over 100 years. An extensive range of pulleys can be provided with high quality lagging designed to ensure maximum belt and pulley life in tough applications. With unmatched conveyor pulley engineering and manufacturing capabilities, Dodge pulleys deliver reliability worldwide.

# Available hub styles Available lagging Vulcanized lagging up to 25 mm thick in SBR, Neoprene, or D-Lag rubber Product features Available from stock in over 150 different sizes and lagging types Exceeds CEMA application standards for use with conveyor belts rated up to 350 PIW (61 kN/m)

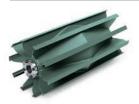
Meets CEMA dimensions

| Mine duty extra drum pulleys |                      |                                                                                   |
|------------------------------|----------------------|-----------------------------------------------------------------------------------|
|                              | Available hub styles | Integral hub designs – HE or XT                                                   |
|                              | Available lagging    | Vulcanized or cold bonded ceramic lagging 12 mm, 16 mm, 19 mm, or 25 mm thickness |
|                              | Product features     | Available from stock in over 100 different sizes and lagging types                |
|                              |                      | Designed for use with conveyor belts rated up to 750 PIW (131 kN/m)               |
|                              | _                    | Meets CEMA dimensions                                                             |

| Spiral drum pulleys | '                      |                                                                                                           |
|---------------------|------------------------|-----------------------------------------------------------------------------------------------------------|
|                     | Available hub styles   | HE or XT                                                                                                  |
|                     | Available construction | Heavy duty, mine duty extra, or custom                                                                    |
|                     | Product features       | Designed for mine service tail pulley applications requiring rugged durability with maximum belt cleaning |
|                     |                        | Crowned or straight face                                                                                  |
|                     |                        | Meets CEMA dimensions                                                                                     |

| _ | Available hub styles | HE, XT or Bikon                                                     |
|---|----------------------|---------------------------------------------------------------------|
|   | Product features     | Custom designs based on conveyor loading for maximum life           |
|   |                      | Integral hub, profiled, turbine and T-Section end disc designs      |
|   |                      | Vulcanized lagging up to 1" thick in SBR, Neoprene or D-Lag rubber  |
|   |                      | Variety of lagging methods and styles available                     |
|   |                      | Imperial or metric dimensions                                       |
|   |                      | Designed for use with conveyor belts exceeding 800 PIW (1,400 kN/m) |
|   |                      | 2 year warranty                                                     |

# Heavy duty wing pulleys



Available hub styles HE or XT

Product features Heavy duty contact bars for high durability

Slide-on urethane Wing-Lag available

Meets CEMA dimensions

# Mine duty wing pulleys



Available hub styles HE or XT

Product features Heavy duty contact bars for high durability
Rubber vulcanized directly onto wings available

Meets CEMA dimensions

# Herringbone wing pulleys



Available hub styles

Product features
Over 200+ part numbered sizes available
AR400 contact bars available
Wing angles of up to 45°
Center reinforcement disc for increased wing strength

# Spiral wing pulleys



Available hub styles HE or XT

Product features Heavy duty contact bars for high durability Rubber vulcanized directly onto wings available Smooth running for low impact on belt splices

# Heavy and mine duty conveyor pulleys

| M |  |
|---|--|

Elevator pulleys

| HE o                                                                | Available hub styles |
|---------------------------------------------------------------------|----------------------|
| Vulcanized lagging in SBR or FOS (Fire, oil & static resistant) rub | Available lagging    |
| Single disc and double disc drum ty                                 | Product features     |
| Holz and Holz SOF style 5 lago                                      |                      |
| Exceeds CEMA application standards up to 350 PIW (61 kN             |                      |



#### Conveyor pulley bushings

|    | h. |     |
|----|----|-----|
| 01 | 0  | 12. |
| -  |    | 11  |

Product features

Dodge XT bushings with 9.5 degree taper angle interchange with competitive products)

Dodge HE bushings with 14 degree taper angle featuring larger bolts and more bolts versus competitive designs (HE 45 and larger)

Dodge QD and QDS bushings offer a 4 degree taper angle and flange mounting

Dodge Taper-Lock bushings with 8 degree taper angle and slim profile design

Shafting



| Product features | Engineering, design and manufacture of custom shafting            |
|------------------|-------------------------------------------------------------------|
|                  | 1045 & 4140 steel standard                                        |
|                  | Stainless steel upon request                                      |
|                  | Cold rolled, hot rolled and forged                                |
|                  | Ultrasonic and magnetic particle testing available                |
|                  | Custom keyways, turndowns, drill & tap and tolerance requirements |
|                  | Certified prints provided for all custom shafting                 |

| Pul | lov | 26 | - | m | hl | ioc |
|-----|-----|----|---|---|----|-----|



| Benefits | Complete assembly of conveyor pulley, bushings, shaft, bearings and coupling |
|----------|------------------------------------------------------------------------------|
|          | Expert mounting and lubrication of large bore bearings                       |
|          | All exposed metals covered with anti-rust protection                         |
|          | Long-term storage preparation available                                      |
|          | Custom pallets for both flatbed and export shipments available               |
|          |                                                                              |

| Engineered class pulleys |                            |                                                                                                                                                        |
|--------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Shaft locking devices      | HE, XT or Bikon                                                                                                                                        |
|                          | End disc designs           | Integral hub, profiled, turbine and T-section                                                                                                          |
|                          | Available lagging          | Vulcanized, standard SBR, fire and oil resistant Neoprene, or abrasion resistant D-Lag.<br>High-traction ceramic (available cold bonded or vulcanized) |
|                          | Product features           | Standard 1045 or high strength 4140 shaft material                                                                                                     |
|                          |                            | Available stainless steel construction for non-magnetic applications                                                                                   |
|                          |                            | 2 year warranty                                                                                                                                        |
|                          | Manufacturing capabilities | High-strength submerged arc welds                                                                                                                      |
|                          |                            | Thermal stress relieving                                                                                                                               |
|                          |                            | CNC machining of shaft and pulley                                                                                                                      |
|                          |                            | Static and dynamic balancing                                                                                                                           |
|                          |                            | Expert assembly of pulley, shaft, bearings, coupling and backstop                                                                                      |
|                          | Quality certifications     | ISO 9001:2008                                                                                                                                          |
|                          |                            | AWS and ASME certified welding procedures and welders                                                                                                  |
|                          |                            | ASNT NDE certified inspection program                                                                                                                  |
|                          |                            | Material certifications on all materials                                                                                                               |

# Engineered class pulley end disc designs



### Additional information

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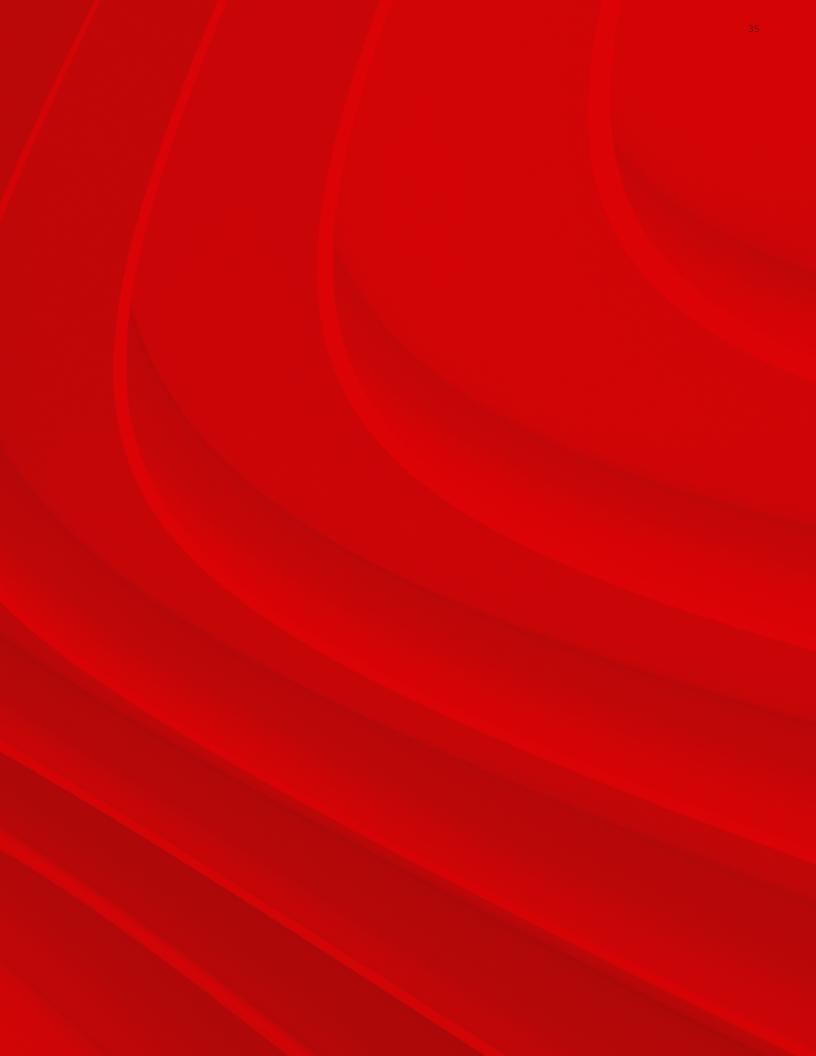




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