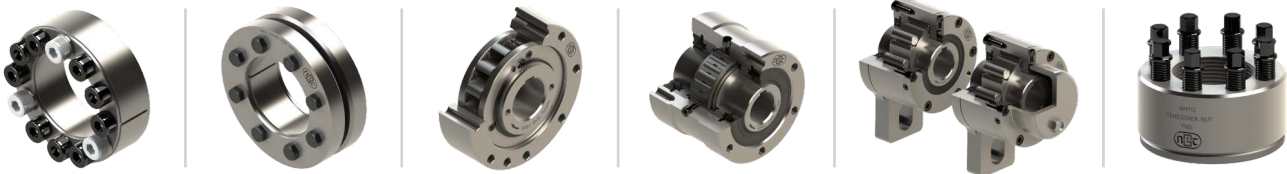
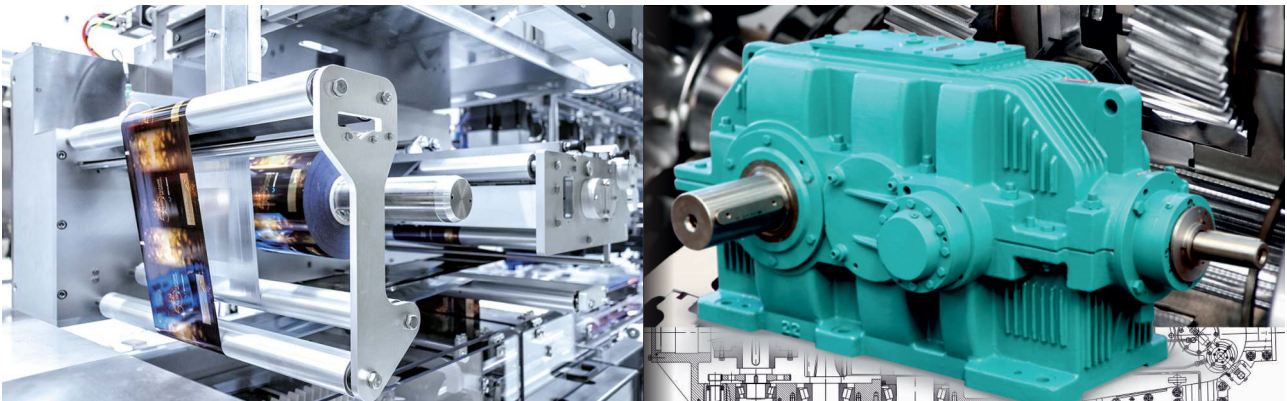




Since 1975

PARTNER FOR DELIVERING EXCELLENCE



NMTG MECHTRANS TECHNIQUES PVT. LTD.

An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 & CE Certified Co

www.nmtgindia.com



WELCOME TO NMTG

Trusted Indian brand in the field of Mechanical Power Transmission Products.



ABOUT US

NMTG is a leading manufacturer in specialized markets for Mechanical Power Transmission Products. Our main products are **Keyless Transmission Elements, Freewheel One-way Clutches, Holdback Devices and Tensioner Nuts - Tensioner Bolts**. We have been providing high end technology solutions to our customers. Our organization was established in the year 1975 by Shri Kanubhai Prajapati (Founder & Director) who has a genius design engineer and quality-oriented technocrat by birth. Who has 46 years of rich experience in this field. NMTG can handle varied and versatile applications in almost all engineering fields in pan India and Globally. We have successfully catered over 1500 satisfied customers across the country.

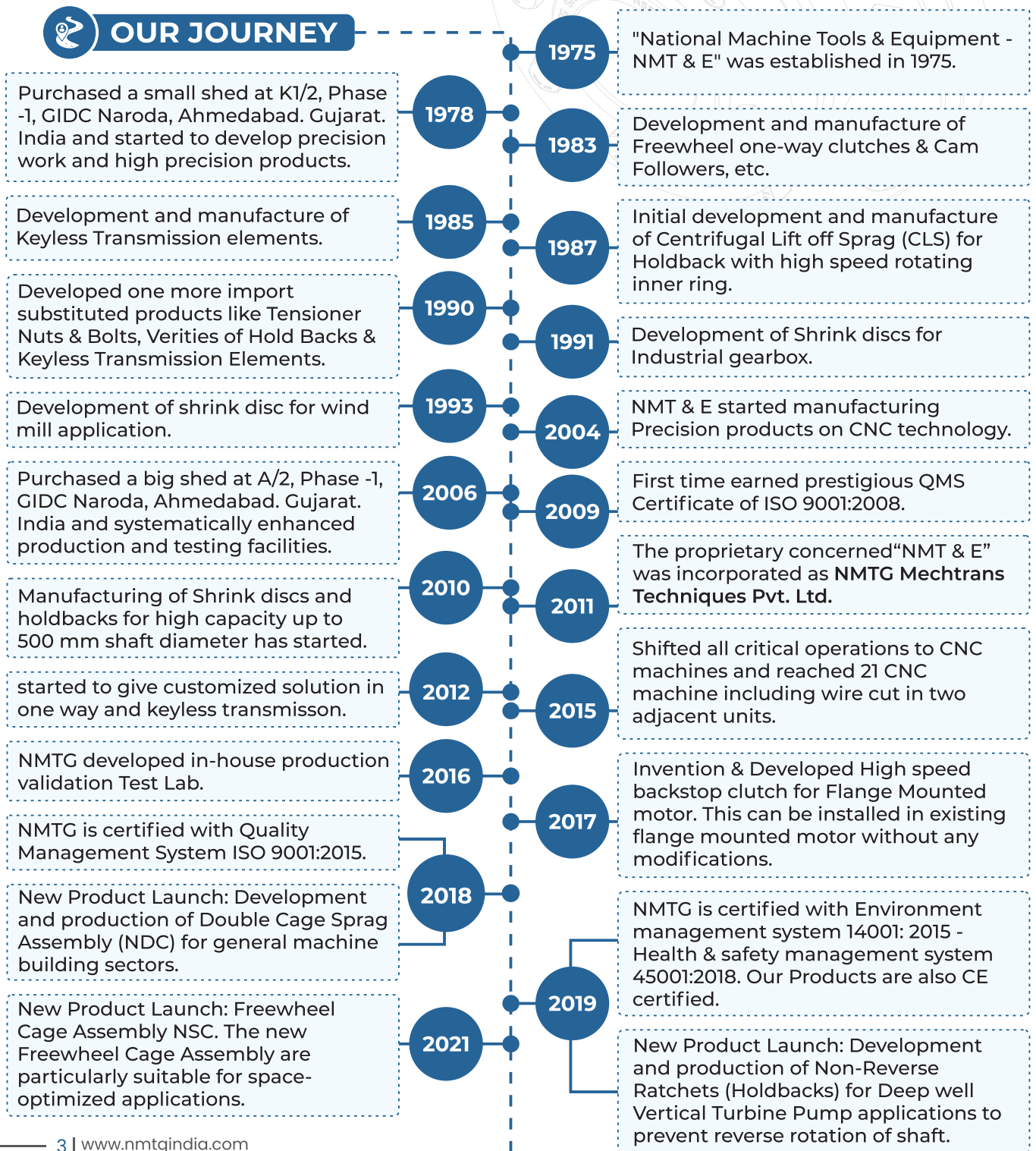
Our own ultra-modern facilities spread over 3943 Square Meter area with the High End CNC technology from DMG Mori-Seiki, MAZAK & HARDINGE guarantee high quality products. Our company philosophy is to strive total customer satisfaction. To achieve this, We undergo continual refinements.

To continuously meet the ever-changing needs of our valued domestic and Global customers .
and attain a position of preferred solution provider for power transmission devices.

MISSION

To accomplish NMTG vision, the organization shall endeavor hard to foster a continuous learning culture in the field and upgrade.

- ▶ Working Environment
- ▶ Manufacturing technology
- ▶ Data management systems
- ▶ Periodically train & Educate employee for upgraded technology

OUR JOURNEY




CERTIFIED QUALITY MANAGEMENT

NMTG has ISO certified of management system according to ISO 9001: 2015 (Quality management system), Environmental performance according to ISO 14001: 2015 (Environment management system) and health & safety management system according to ISO 45001:2018. In addition, Our products are also CE certified. Our Management System has been certified by TUV Nord. Our motto is "Quality is Life". Our goal is to provide the Solution as per application in a fast, cost-effective and friendly manner.

OVER 46 YEARS OF EXPERTISE WE ARE YOUR EXPERT PARTNER

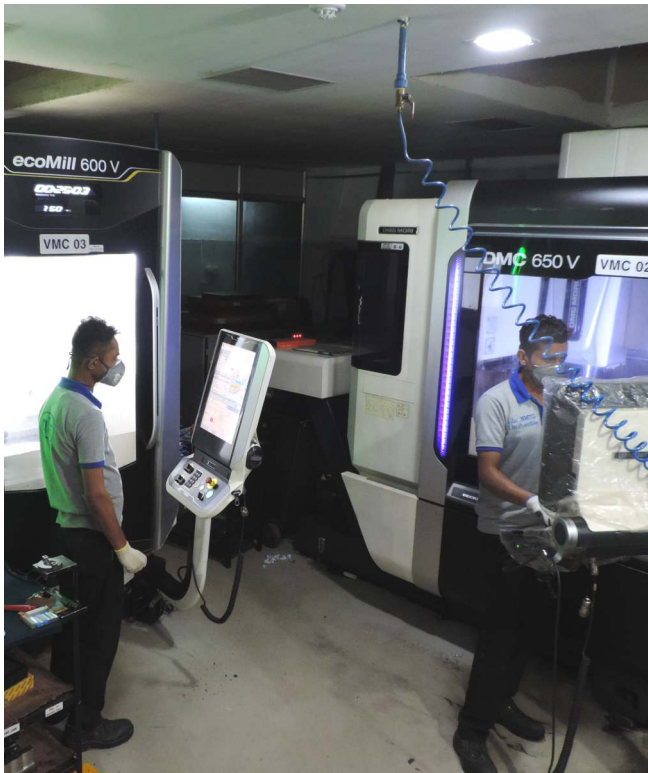
- ▶ 100% commitment to quality and on - time delivery.
- ▶ Self-certified products.
- ▶ Attempting to reduce lead times as much as possible.
- ▶ Absorb technological advancements to deliver excellence.
- ▶ We strive for total customer satisfaction.

PRODUCT RANGE

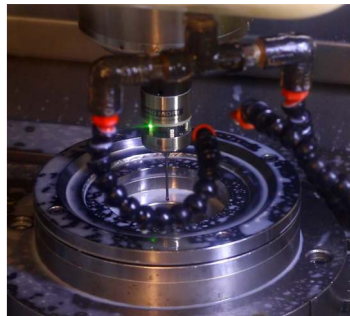
NMTG have a fully integrated manufacturing facility capable of producing high-precision

- ▶ **Keyless Transmission Elements**
- ▶ **Freewheel one-way clutches & Holdback Devices**
- ▶ **Tensioner Nuts & Tensioner Bolts**
- ▶ **Keyless Couplings**
- ▶ **Hydraulic Tensioner Nut-Bolt & Shrink Disc**
- ▶ **Torque Limiting Backstop**

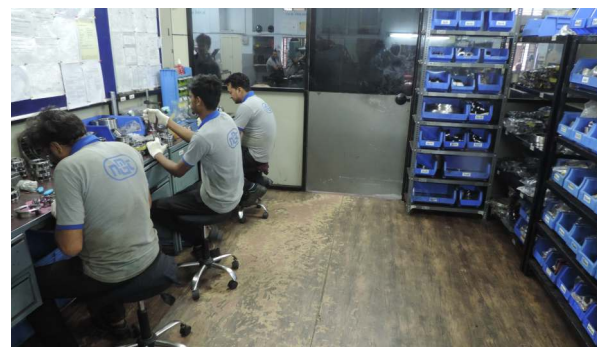
WORLD CLASS MANUFACTURING FACILITY



INSPECTION



ASSEMBLY & TESTING



LOCKING ASSEMBLY & SHRINK DISC

Keyless Transmission Elements

NMTG Keyless Transmission Elements works based on wedge friction theory. The clamping system connects two or more parts to the shaft and hub which allow motion to be transmitted and to withstand an axial thrust. Due to Interference between two bonded parts at the shaft and hub, the torque can be transmitted from the shaft to the hub through locking assembly. The locking assembly develops pressure between the shaft and the hub, which transmits the highest torques free from backlash. Thus gears, chain sprockets, pulley, drum, cam discs, the flywheel can be attached preciously. The supplied locking devices are ready for installation.

LOCKING ASSEMBLY Internal Clamping Devices



N7012

- ▶ Slimmest design for limited spaces as well as maximum forces and moments
- ▶ Medium torque transmission capacity
- ▶ Medium bending moment capacity
- ▶ No axial displacement of the hub during installation
- ▶ Not self-centering
- ▶ Self-releasing
- ▶ Economically beneficial for conveyor application
- ▶ Shaft diameter range: 17 to 500 mm



N7515 & N7016.1

- ▶ Three Part Design, Good capacity to withstand torque & bending moments
- ▶ Pre centering guide design.
- ▶ Medium& High torque transmission capacity
- ▶ Medium& High bending moment capacity
- ▶ No axial displacement of the hub during installation
- ▶ self-centering
- ▶ Shaft diameter range: 24 to 500 mm



N7036

- ▶ High torque transmission capacity
- ▶ High bending moment capacity
- ▶ No axial displacement of the hub during installation
- ▶ self-centering
- ▶ Allows reduced hub width in conveyor pulley lower material cost and lower machining cost.
- ▶ Shaft diameter range: 30 to 500 mm



N7013.0, 13.1, 30, 31, 32, 33

- ▶ Medium& High torque transmission capacity
- ▶ Medium bending moment capacity
- ▶ No axial displacement of the hub during installation(N7013.1,31 & 33 Series)
- ▶ Slight axial displacement of hub during installation(N7013.0,30 & 32 Series)
- ▶ self-centering
- ▶ Shaft diameter range: 20 to 500 mm



N250

- ▶ Medium torque transmission capacity
- ▶ No axial displacement of hub during installation
- ▶ self-centering
- ▶ Low surface pressure
- ▶ Best solution for low hub OD
- ▶ Shaft diameter range: 9 to 130 mm



N8006

- ▶ Cost-effective solution
- ▶ Low torque transmission capacity
- ▶ No axial displacement of hub during installation
- ▶ Not self-centering
- ▶ Not self-locking
- ▶ Best solution for low hub OD
- ▶ Shaft diameter range: 6 to 540 mm



N280

- ▶ Three part design
- ▶ Excellent concentricity
- ▶ self-centering
- ▶ Self-locking
- ▶ Slight axial displacement of hub during installation
- ▶ Available in Alloy Steel/Electroless Nickel plated Steel / Stainless Steel
- ▶ Shaft diameter range: 15 mm to 75 mm



Clamping Sleeve

- ▶ Single Piece Design
- ▶ High degree of precision
- ▶ Homogenous clamping on shaft & Hub
- ▶ High concentricity
- ▶ Low, Medium & High torque transmission capacity
- ▶ No axial displacement of hub during installation
- ▶ self-centering
- ▶ Shaft diameter range: 8 to 300 mm

APPLICATION OF KEYLESS LOCKING ASSEMBLY

- | | | |
|---------------------------|------------------|---------------------------|
| ▶ Conveyor pulleys | ▶ Turbine runner | ▶ Levers |
| ▶ Flywheels in generator | ▶ Crushers | ▶ Pump impellers |
| ▶ Timing pulley | ▶ Agitator shaft | ▶ Pinion gears |
| ▶ Marble machinery | ▶ Coupling | ▶ Sprockets |
| ▶ Godet roller | ▶ Cams plates | ▶ Crane wheels |
| ▶ Gear wheels | ▶ Spur gears | ▶ bucket wheel excavators |
| ▶ Bucket wheels excavator | ▶ Bevel gear | ▶ Food industries |
| ▶ Gantry cranes | ▶ Worm gears | ▶ Packaging machines |

POWER TRANSMISSION PRODUCTS FOR DRIVE UNITS

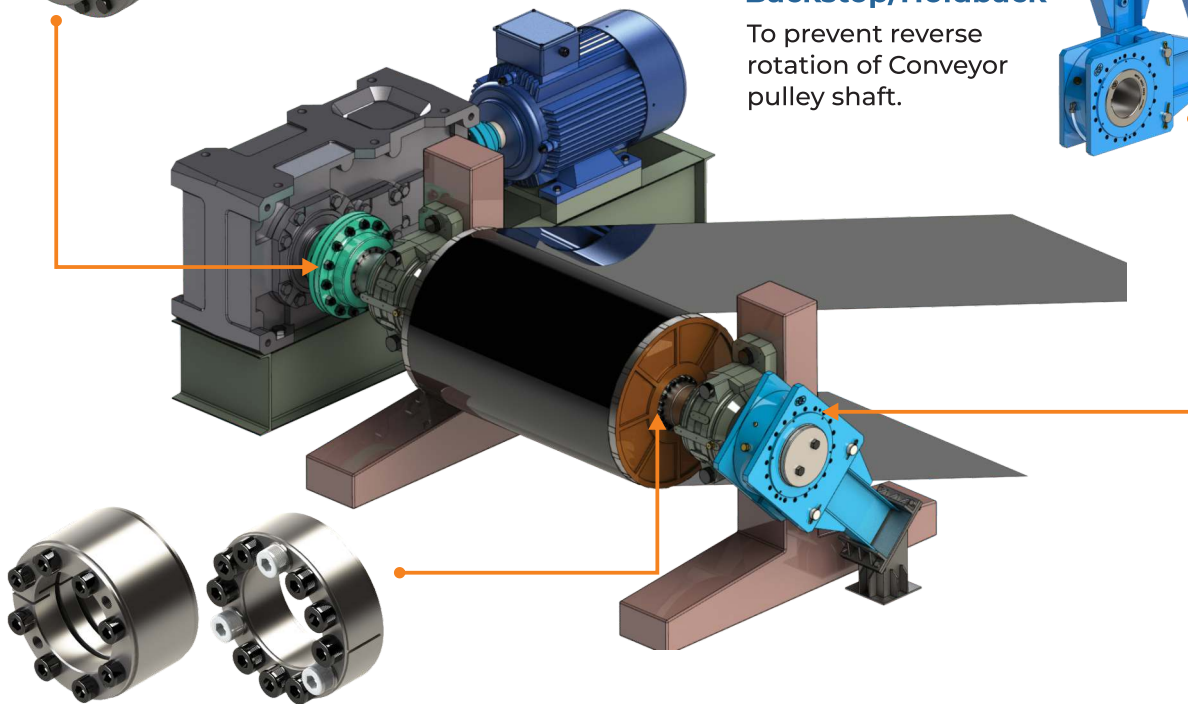
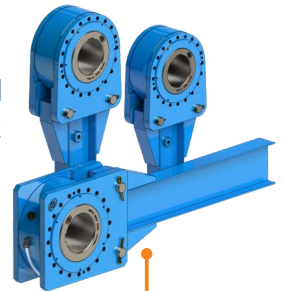


Keyless Rigid Coupling

To connect gearbox shafts with equipment shaft

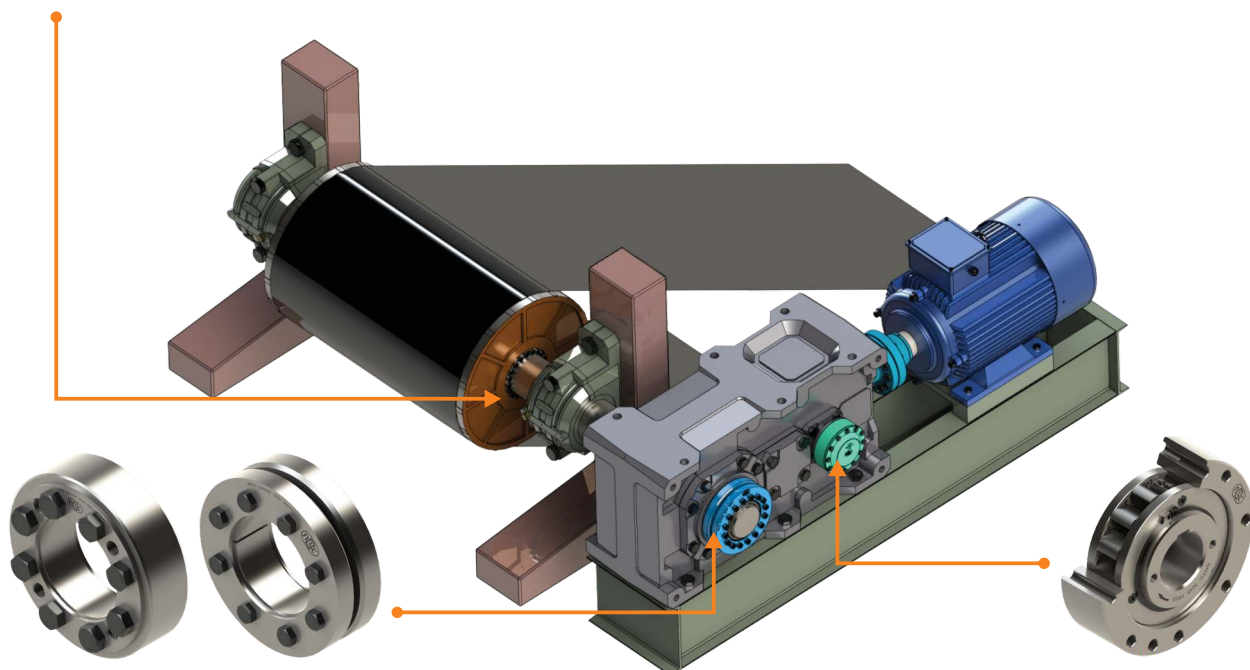
Low Speed External Backstop/Holdback

To prevent reverse rotation of Conveyor pulley shaft.



Keyless Transmission Elements

Locking assembly are used as a replacement of Keyed connection or Shrink-fit connection for High Transmitting Torque, High Bending Moment.



Shrink Discs

To connect gearbox hollow shafts with equipment shafts

Holdback (Backstop) Clutch

To prevent reverse rotation of equipment

SHRINK DISCS

External Clamping Devices



N4051, N4071 & N4091

- ▶ Low, Medium & High torque transmission capacity
- ▶ Three part design
- ▶ Self-releasing
- ▶ Easy mounting & removal
- ▶ External locking devices for hollow shaft (Hub) – shaft connection.
- ▶ Also available in a split version
- ▶ Diameter range: 30 to 500 mm



NSD 20, 21, 23, 28, 28D

- ▶ Low, Medium & High torque transmission capacity
- ▶ Two part design
- ▶ Easy mounting & removal
- ▶ Diameter range: 30 to 500 mm

Keyless Rigid Couplings



N5571 (Flange Coupling)

- ▶ High torque transmission capacity
- ▶ Easy mounting & removal
- ▶ Rigid shaft-to-shaft coupling with sleeve and three parts shrink disc.
- ▶ Connection of shafts with different diameter is possible
- ▶ Diameter range: 70 to 300 mm



N500 (Keyless Rigid Coupling)

- ▶ Medium & High torque transmission capacity
- ▶ Self-releasing
- ▶ Easy mounting & removal
- ▶ Connection of shafts with different diameter is possible through stepped bore inner ring.
- ▶ Diameter range: 10 to 80 mm



NKF (Keyless Flange Couplings)

- ▶ Stronger connection than keyed connection
- ▶ Compact design
- ▶ Shafts are not weakened by keyways
- ▶ Small axial space required for installation
- ▶ Quick assemble/disassemble in minimal downtime
- ▶ No fretting corrosion like with keyway connections
- ▶ Diameter range: 25 to 350 mm

APPLICATION OF SHRINK DISC

- | | | |
|---------------------------|---------------------------|----------------------------------|
| ▶ Bucket wheels excavator | ▶ Conveyor systems | ▶ Food Industries |
| ▶ Water / Wind turbines | ▶ Drive cable winches | ▶ Paper & Packaging industries |
| ▶ Cushing equipment | ▶ Gear-motor connections | ▶ Steel & Rolling mill |
| ▶ Gearboxes | ▶ Hydro power application | ▶ Agitator shaft |
| ▶ Gearbox test benches | ▶ Wood processing | ▶ Mixing & Processing industries |

FREEWHEEL ONE-WAY CLUTCHES

The basic principle of freewheel one-way clutch is based on wedge friction theory. NMTG freewheel one-way clutch is designed to transmit torque in one direction and overrunning (Freewheeling) in opposite direction. As the contacts between wedging elements (Roller, Sprag, CLS Cam, NDC Sprag, etc.) with inner race & outer race, these generate clamping forces. NMTG all freewheel one-way clutch designs utilize the same principles of operation. The three most common types of function/applications are listed below.

Freewheel One-way Clutches are used as:

1. Backstop/Holdback
2. Overrunning clutch
3. Indexing clutch



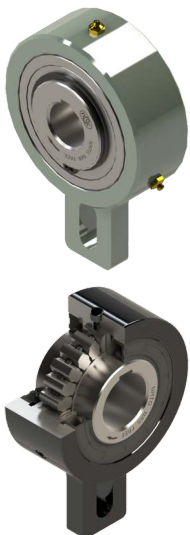
NHB (High Speed Backstop/Holdback)

- ▶ NHB are located on the 1st or 2nd stage gearbox and prevent reverse rotation of conveyor belts, pumps, elevators, etc.
- ▶ NHB models are without bearing supported and with Centrifugal lift-off Sprag (CLS). The Centrifugal Lift-off Sprag (CLS) ensures a wear-free freewheeling operation when the inner ring rotates at high speed.
- ▶ These types of clutches are used, where the speed of the shaft is higher.
- ▶ NHB models are used as Backstop/Holdback
- ▶ Nom. Torque up to 192555 Nm
- ▶ Bore diameter range up to 300 mm



NSO

- ▶ Automatic engaging & disengaging of drives (as an overrunning clutch) & gradual feed of material (as an Indexing clutch)
- ▶ NSO models are sprag type freewheels, sealed (By Oil Seal) & bearing supported, using two ball bearings
- ▶ Outer race end faces have tapped holes for attachment of items such as coupling, sprocket, pulley, etc.
- ▶ Nom. Torque up to 36600 Nm
- ▶ Bore diameter range up to 180 mm



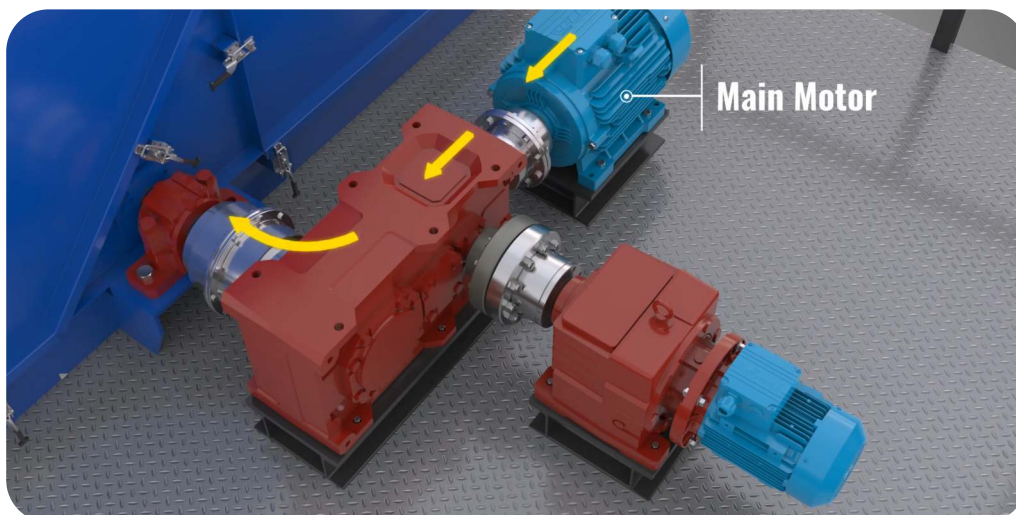
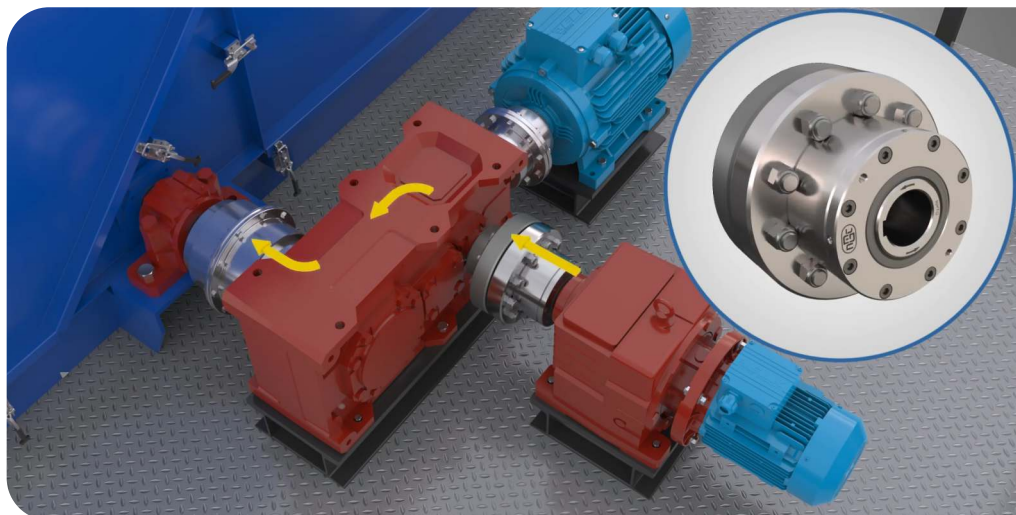
NAS & NAR (Low to medium speed Backstop/Holdback)

- ▶ NMTG NAS model is sprag type & NAR model is roller type free wheel one-way clutch.
- ▶ This type of freewheel clutch is without bearing type with lever arm for backstopping, so external bearing support must be required for axial & radial loads.
- ▶ The Backstop clutch should be fixed to the machine body by placing support bracket on either side of the torque arm or by using a pin or bolt in the slot.
- ▶ This type of freewheel clutch is used in Inclined Conveyor, Bucket Elevator, etc. which are used in outside location (in very dusty environment).
- ▶ This type of models are used as Backstop/Holdback
- ▶ Bore range : up to 95 mm
- ▶ Nom. Transmitting torque : 8500 Nm

OVERRUNNING CLUTCH FOR DUAL DRIVE APPLICATION



Freewheel one-way clutch disengages automatically when the driven member rotates faster than the driving member. For more information, Kindly go to NMTG YouTube channel.





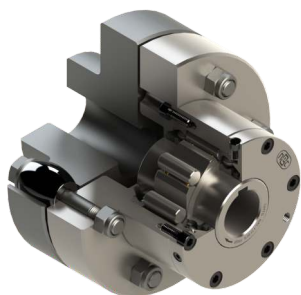
NDF (Shaft mount Backstop/Holdback)

- ▶ NDF series clutches are direct mounting sprag clutches specially designed for backstop application where compact space (dimensions) are required. this clutches are directly mounted on shaft.
- ▶ This type is particularly suitable for use in equipment (gear units) where good concentricity between shaft & housing is required.
- ▶ Requires oil lubrication.
- ▶ Concentricity: Shaft to be supported in bearings such that shaft & housing are concentric within 0.05 mm TIR.
- ▶ Bore range: up to 101.6 mm.
- ▶ Nom. Transmitting torque: 3417 Nm.



NR C1C2 & NR C2C3 (Low to medium speed Backstop/Holdback)

- ▶ NR C1C2 is located on a non-drive pulley of the shaft and prevents reverse rotation of conveyor belts & bucket elevators.
- ▶ NR C1C2 models are trapped rollers type freewheels, sealed (by oil seal) & bearing supported, using two ball bearings
- ▶ This type of models are used as Backstop/Holdback
- ▶ Nom. Torque up to 70000 Nm
- ▶ Bore diameter range up to 150 mm



NFRC / NR C1C8C9

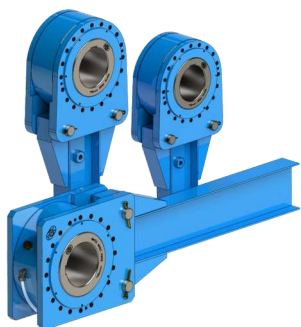
(Freewheel one-way clutch with Half Flexible Coupling)

- ▶ This type of clutch model is a high performance coupling used to damp torsional vibrations & to accept misalignment without access bearing load.
- ▶ High & low speed applications
- ▶ Trapped rollers freewheels is self-centered by means of ball bearings provided with oil seals.
- ▶ This type of models are used as Overrunning clutch
- ▶ Nom. Torque up to 250000 Nm
- ▶ Bore diameter range up to 250 mm



NDS / NLD / NED / NMD (Internal Freewheel one-way clutch)

- ▶ Trapped rollers freewheels is non-bearing supported, so bearings are required to support axial & radial loads.
- ▶ Nominal external dimensions of these models are close to the size of the ball bearing.
- ▶ Lubrication & Sealing must be provided for Installation.
- ▶ This design can accept an axial misalignment of inner & outer race.
- ▶ This type of models are used as Overrunning & Backstop/Holdback clutch
- ▶ Nom. Torque up to 44500 Nm
- ▶ Bore diameter range up to 200 mm.



NRHD & NRSC (Low speed Backstop/Holdback)

- ▶ External holdback is designed for use in low speed inclined conveyor, elevator & pump.
- ▶ NRHD & NRSC models are sprag/trapped roller type freewheels and self-centred by ball bearing and also provided with flexible labyrinth & oil seal for tough environment.
- ▶ They are supplied with grease/oil lubrication and ready for installation.
- ▶ Nom. Torque up to 503550 Nm
- ▶ Bore diameter range up to 356 mm.

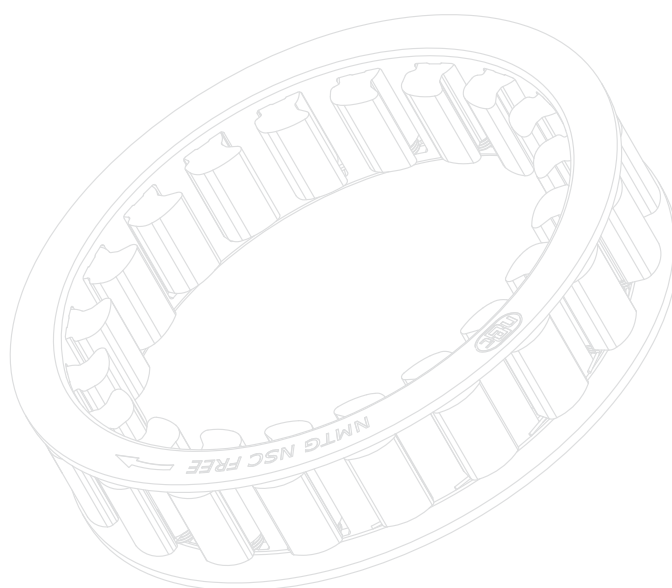
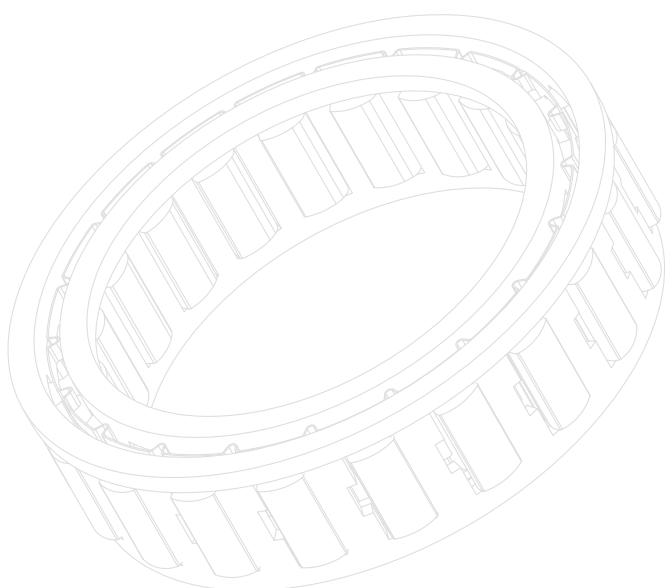


NDC & NSC (Sprag Cage Assembly)

- ▶ Sprag Cage Assembly is installed between customer-supplied inner & outer races.
- ▶ NDC & NSC types of cage assembly must be installed in a design providing races, bearing support for axial & radial loads, lubrication & sealing.
- ▶ Which are mainly used as Overrunning clutch & Indexing clutch
- ▶ Nom. Torque up to 4800 Nm

APPLICATION OF FREEWHEEL ONE-WAY CLUTCHES

- | | | |
|--------------------|---------------------------|----------------------------------|
| ▶ Conveyor belts | ▶ Electric motor | ▶ High-voltage switchgear |
| ▶ Textile machines | ▶ Steel plant | ▶ Engine test benches |
| ▶ Elevators | ▶ Coal crushing equipment | ▶ Winches |
| ▶ Roller conveyor | ▶ Packaging machines | ▶ Two speed Drives (Dual Drives) |
| ▶ Bucket elevators | ▶ Pump & Compressor | ▶ Fish Net Machines |
| ▶ Press machine | ▶ Fan & ventilators | ▶ Air Preheaters |
| ▶ Gearbox | ▶ Rolling mills | ▶ Cranes & Hoist |
| ▶ Cooling tower | ▶ Power Plants | |



TENSIONER NUT & BOLT

Tensioner Nut & Bolt is designed for direct replacement of conventional hex nut & bolt. No requirement for more space just required to replace the hex nut. Normally in medium & heavy industries, different bolted joints/connections are to be used which requires high clamping force. So, these require more effort in Tightening & Untightening.

NMTG Tensioner Nut & Bolt is the simplest, inventive & cost-effective solution in bolted joints. This joint can be tightened without requiring heavy tooling. Also, if the application is critical or special then also NMTG can supply a customized model as per application requirement.



Tensioner Nut (TNS)

- ▶ Used as a replacement of simple convention Hex Nut
- ▶ Suitable for all general mechanical application
- ▶ Max. Preload Capacity up to 8410 kN
- ▶ High-temperature sustain capacity
- ▶ Range: M16 to M160



Flex Nut (TNX)

- ▶ TNX is a reactive type of flex nut used for through-hole application.
- ▶ Flex nuts are used opposite to tensioner nut. They are never torque directly to achieve preload.
- ▶ They are suitable in combination with TNS or Tensioner bolt.
- ▶ Max. Preload capacity up to 8400 kN
- ▶ High-temperature sustain capacity
- ▶ Range: M20 to M160



Tensioner Nut (TNG)

- ▶ Compact Jamnut
- ▶ TNG model is used for applications where limited headroom or space & limited thread engagement are required.
- ▶ Max. Preload capacity up to 2100 kN
- ▶ High-temperature sustain capacity
- ▶ Range: M20 to M160



Tensioner Bolt (TB 8 & TB 12)

- ▶ Tensioner bolts most often used for applications with tapped holes.
- ▶ Max. Preload capacity up to 7008 kN
- ▶ High-temperature sustain capacity
- ▶ Range: M16 to M160

APPLICATIONS OF TENSIONER NUT & BOLT

Gas Compression

Crosshead Jamnuts,
Compressor cylinders,
Piston end nuts

Steam Power

Boiler feed water pump
head, Barrel casings,
Stop valve, Inlet flange,
Heat exchanger

Mining Industries

Hoist motors, Pinion
gears, Split gears, Bolted
segments, Girth gear &
Gear joints

Pressing Machinery

Press columns,
Tie rods.

Hydro Power

Turbine coupling, Blade bolts, Turbine wheel to shaft
bolting, Pelton-Turbine nozzles, Servo piston nuts,
Bearing housings

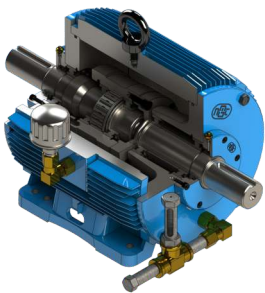
Customer Orientation

NMTG has the ability to manufacture a variety of custom made products. We offer a unique level of service excellence and customer care. NMTG performs all aspects of such projects from design to finish products (including all the process) - so that our customers benefit from reliable and quick processes. Our technical team is always working on improvements that are special to develop specific practices and customer needs. By controlling the entire design and manufacturing process, NMTG guarantees the quality, performance and delivery of the products. We use modern ERP and CAD software for efficient information technology.

SPECIAL SOLUTIONS AND INNOVATIONS

(We deliver what we claim)

NMTG is recognized throughout the industry for its capability to create specific solutions to customer unique requirements. NMTG provides practical cost effective solutions with a commitment to value through quality. This is achieved by the continuous investment in people, process technology and manufacturing.



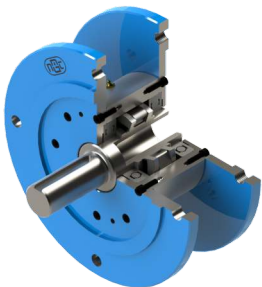
NDU (Freewheel one-way clutch with Foot Mounted Housing)

NMTG NDU model is special purpose freewheel one way clutch used in applications where continuous overrunning function required without shut down in dusty environment.



Keyless Flexible Coupling

NMTG keyless products provide a high torque capacity for flexible coupling. To overcome disadvantages of keyed connection, NMTG offer keyless flexible couplings for servo motor, automation, and general purpose drive system applications.



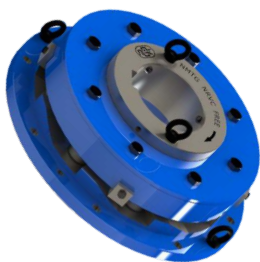
Holdback/Backstop Model - NHBM (For Flange Mounted Motor)

This type of model NHBM is specially design for flange mounted motor. This can be installed in existing flange type motor without any modifications. And it is flange type mounting to prevent reverse rotation of shaft.



HTNS (Hydraulic Tensioner Nut)

As a replacement of simple lock nut. Used for high pressure locking & increases clamping uniformly.



NRVC Holdback (for Vertical Motor with Pump Application)

This Model includes a stationary bottom hub with saw teeth equally distributed over its outer surface & rotating top hub. used for vertical motor shaft application to prevent reverse rotation of shaft.



NSOFC (Freewheel one-way clutch with Flexible Gear Coupling)

NSO series clutch with two flexible half gear couplings can be used to connect dual drives where there are two alternative motors driving a common gearbox input shaft.

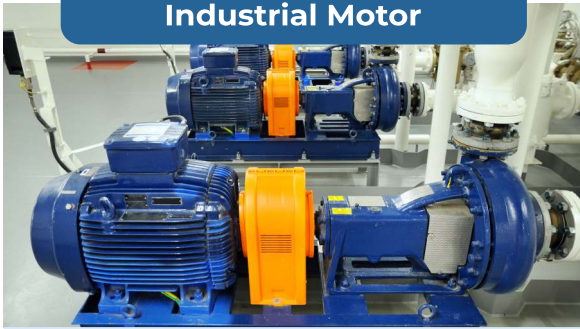


NVFB (Freewheel one-way clutch with QD Type Arrangement)

NMTG NVFB – QD type backstops are specially design for medium-High speed of fan shaft and are able mounted directly to QD bushing. And it is fixing lever arm arrangement to prevent reverse rotation of shaft.

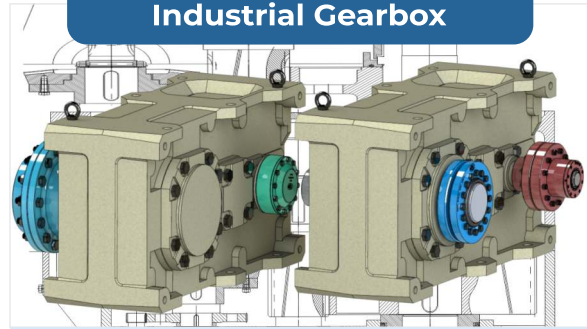


Industrial Motor



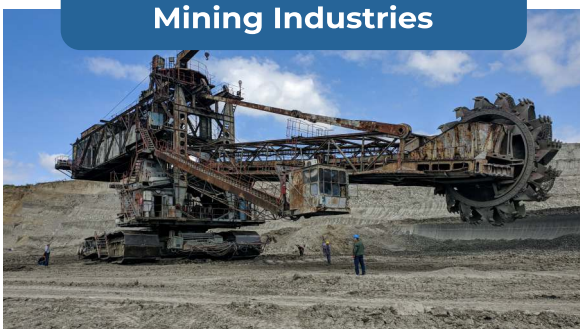
Freewheels as Backstops for prevention of reverse rotation of motor shaft.

Industrial Gearbox



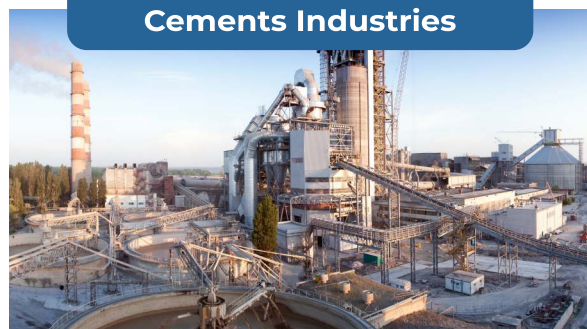
Shrink Discs & Keyless Flange Coupling for connections of gearbox. Freewheels as Backstops.

Mining Industries



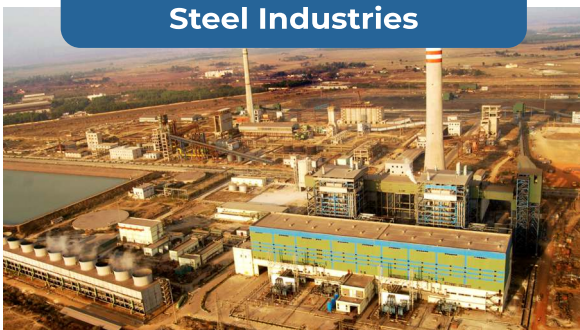
Belt Conveyors, Crusher, Bucket Elevators, Stackers and re-claimers, Bucket wheel excavator, bolted Segments, Girth gear & Pinion Gears

Cements Industries



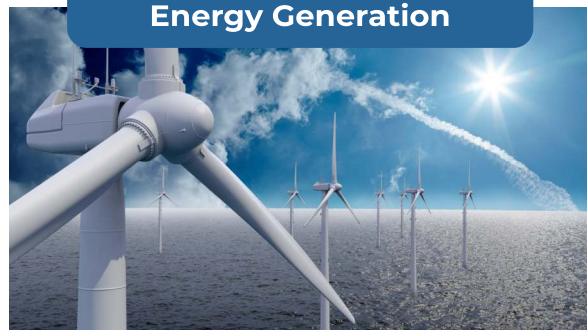
Keyless Transmission Elements are used as a replacement of keyed connection. Freewheels as Backstops & Tensioner Nut & Bolt.

Steel Industries



Inclined Conveyor, Bucket Elevators, Steel mill slitting line, Slitter Machine, Rolling Machine, Tie Rod Nuts

Energy Generation



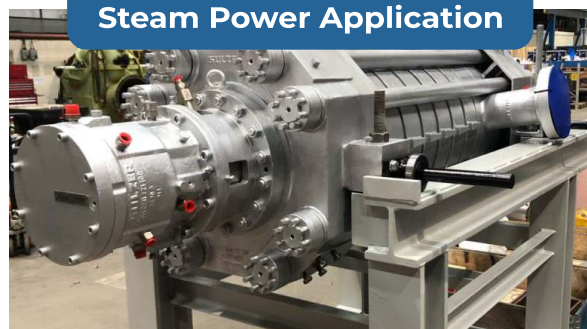
Hydro Power Plants, Wind Turbines, Cooling Towers, Fans & Blowers, Turbines Runners, Turbine wheel to shaft bolting

Food & Packaging Machine



- Packaging Machines
- Processing Machines
- Filling Machines
- Medical Equipment

Steam Power Application



- Boiler feed water pump head
- Heat Exchanger & Pressure Vessel
- Stop Valve & Inlet Flange
- Barrel Casings

Oil and Gas Industry



Pumps, Heat Exchanger Heads , Gearboxes & Motors, Cranes & Winches

Gas Compression



Crosshead Jamnuts, Connecting rod nuts, Piston end nuts, End plates, Compressor cylinders

Material Handling



Keyless Flange Couplings, Shrink Discs & Locking Assemblies are used as a replacement of keyed connections. **Freewheel One-Way Clutches** used in container crane to quickly reduce container swing.

Machine Tools



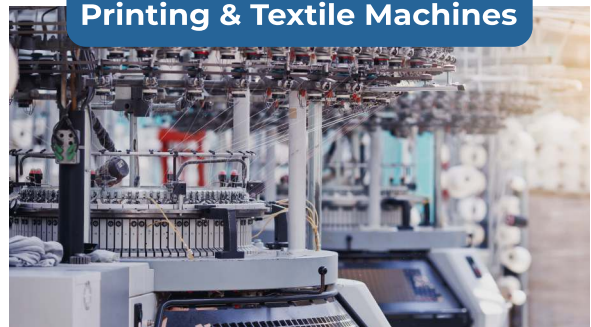
CNC machine, Automatic Tool changer systems, Timing Pulleys

Construction Equipment



Keyless Transmission Elements are used as a replacement of keyed connection for high transmitting torque.

Printing & Textile Machines



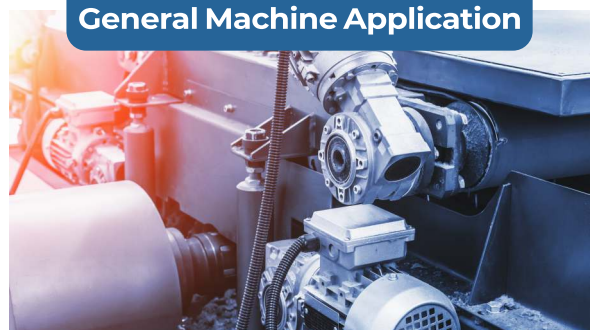
Keyless Transmission Elements are used as a replacement of keyed connection for high transmitting torque.

Wood Processing



The transport of wood with in a machine is a typical field of application. Each according to customer requirements, shaft couplings, locking assemblies or couplings are also used there.

General Machine Application



Pumps & Industrial Fans, Press Machine, Fish Net Machines, Switch gears, Solar Cell Production, Waste water Treatment Plants, Generator Flywheel Application

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