

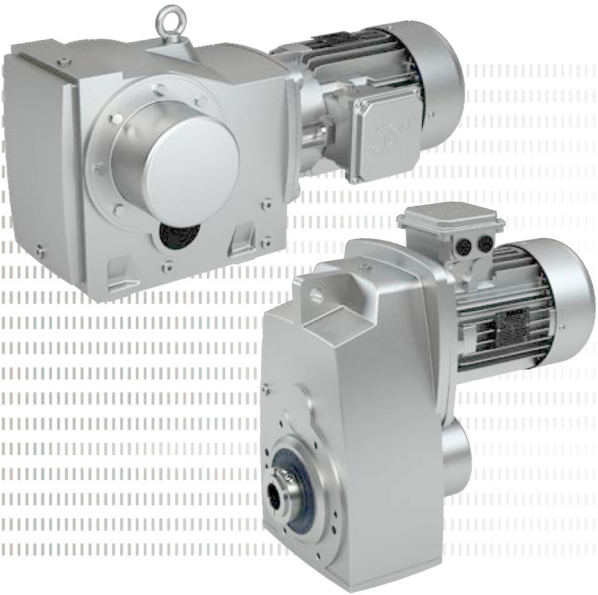
GRIPMAXX™
Keyless Bushing System



GRIPMAXX™

Concept Overview

The NORD GRIPMAXX Keyless Bushing System offers interchangeable bushings for mounting NORD hollow shaft reducers onto a large range of driven solid machine shaft sizes. GRIPMAXX provides a high-capacity, zero-backlash, interference fit to the driven machine shaft thus minimizing the possibility of fretting corrosion. GRIPMAXX also eliminates the typical assembly and disassembly challenges of using interference fits by providing generous assembly and disassembly clearances to help ensure easy installation and removal of the gearbox.

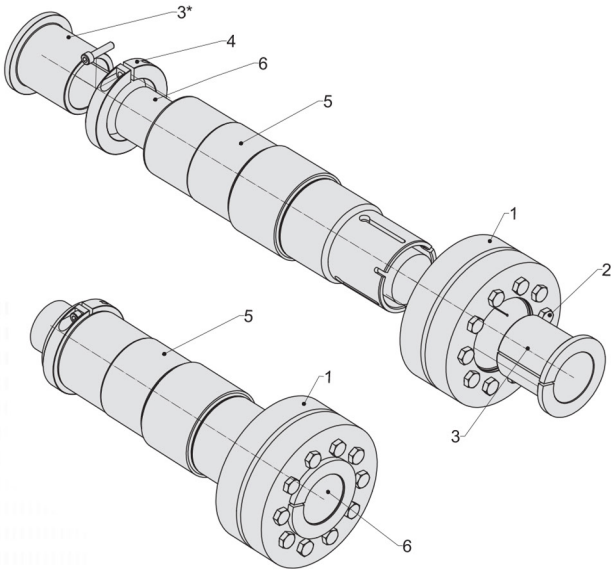


Advantages

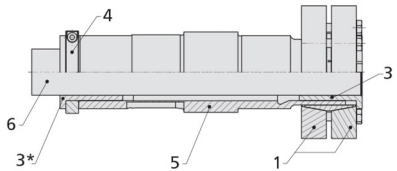
- ▶ Extensive bore flexibility: a single gear case size can be supplied with up to 15 different bushing sizes
- ▶ No special shaft tolerances: utilize readily available cold-finished shaft stock
- ▶ Simplified install and removal
- ▶ Corrosion resistant bushings and shrink disc collar
- ▶ Optimally designed for shaft mounted or torque arm mounted units
- ▶ Keyless design eliminates possible key and keyway failure, as well as shaft fretting corrosion

GRIPMAXX™

Principles of Operation



- 1 - Shrink Disc
- 2 - Locking Screw
- 3 - Bushing (Torque Side)
- 3* - Bushing (Support Side)
- 4 - Clamp Ring
- 5 - Reducer Hollow Shaft
- 6 - Machine Shaft



The NORD GRIPMAXX Keyless Bushing System uses the NORD shrink disc locking collar, an oversized gear reducer hollow bore, and a wide range of possible split-bushing inserts intended to accommodate a variety of imperial and metric bore sizes. The NORD shrink disc has a larger capacity and an increased clamping force capability than the typical commodity shrink disc clamping rings. Through tightening of shrink disc locking screws, large radial clamping forces are exerted upon the walls of the NORD hollow shaft. The NORD hollow shaft is designed to remain elastic, while providing considerable compressive forces. These high forces are in turn transmitted through the split bushing, producing the desired clamping forces on the driven solid machine shaft. The GRIPMAXX solution is ideal for positioning or reversing applications as well as applications with frequent starts and stops.

GRIPMAXX™ Gear Units

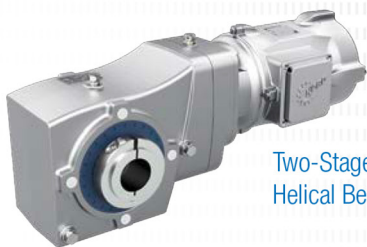
Keyless Shaft Designs with Shrink Disc and GRIPMAXX are available on these NORD gear units (some exclusions apply).



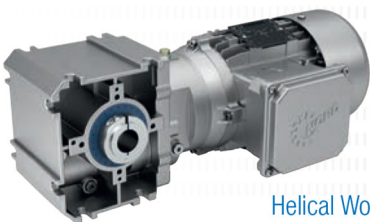
Helical Bevel



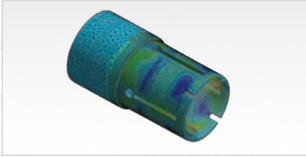
CLINCHER™
Parallel Shaft



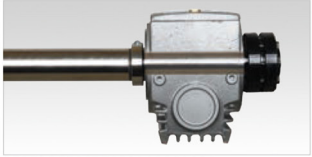
Two-Stage
Helical Bevel



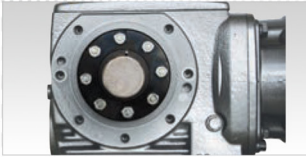
Helical Worm



Designed using FEM technology



The GRIPMAXX fits tightly against a shouldered shaft



A shrink disc helps in the assembly or disassembly process



Easy installation and removal



The use of standard shaft stock means that there is no need for additional shaft machining or shaft keys.



GRIPMAXX bushings are corrosion resistant.

GRIPMAXX vs. Keyed Hollow Bore

In applications with frequent starts and stops, load reversals, or shock loads, the normal keyed-shaft design clearances can cause increased micro-movements at the shaft-to-hub interface and place high stress on keys and keyways, leading to possible component fatigue and shaft fretting corrosion.

GRIPMAXX vs. Shrink Disc

A shrink disc is normally offered in a single inch and single metric bore size. Bore flexibility is limited without absorbing the cost of special hollow shaft and shrink disc designs. GRIPMAXX is available in a wide range of reducer sizes and shaft bore combinations.

GRIPMAXX Saves Time and Money

This system uses standard cold-finished shaft stock to eliminate the cost of machining keys and keyways. Its keyless interference fit also minimizes fretting corrosion and uses fewer moving parts, reducing overall install, dismantle, and operating costs. The GRIPMAXX system is also advantageous for those looking to standardize to a few reducer sizes while continuing to provide a wide range of bore sizes.

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