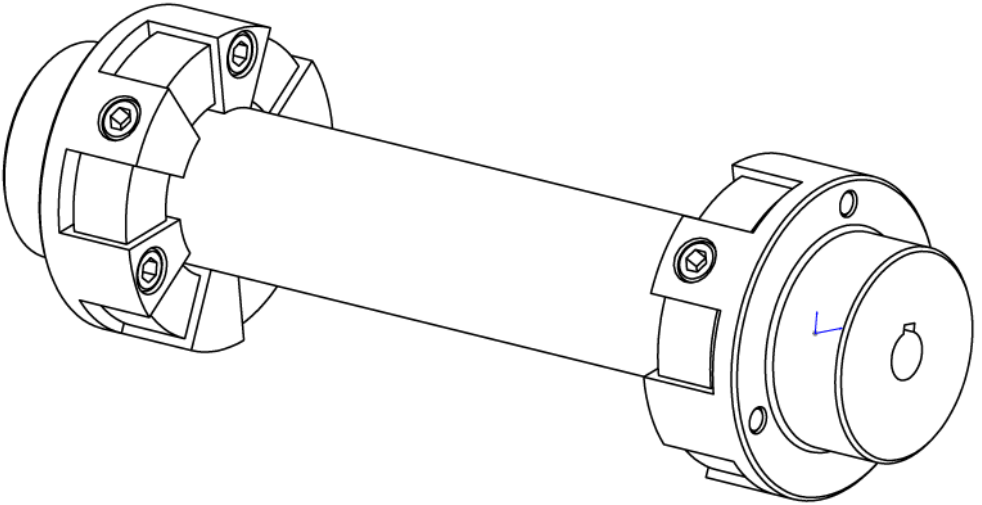


Operating Manuel
Drive Shafts GX



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1 Important Information

This chapter contains important information on the safe handling of the product and on this operating manual.

1.1 Instructions on Documentation

The following instructions will guide you through the entire documentation.
We assume no liability for damages resulting from non-compliance with this operating manual.
Forward this operating manual to the plant operator so that it is available if needed.

1.2 Safekeeping of the Documentation

Keep this operating manual and all other applicable documents safe so that they are available if needed.

1.3 Used Symbols



Information

Instructions and information on the operation of the worm gear screw jacks.



Attention!

Non-compliance may result in material damage and impair the operation of the gear unit.



Warning!

Safety instruction: non-compliance may result in serious or fatal injuries.



QR Barcode

Provides a direct link to the products on our website. Compatible with QR barcode scanner apps for all Android, Apple and Windows smart phones / tablets.

1.4 Qualified Staff



Qualified staff according to this operating manual refers to specialists who are familiar with the installation, assembly, commissioning and operation of the drive shafts and the hazards involved and who possess the necessary capabilities on the basis of their specialist training and knowledge of the applicable standards.

1.5 Allgemeine Sicherheitshinweise

The following warnings, preventive measures and instructions are intended to guarantee your safety and to avoid damage to the drive shafts or the components connected to it. This chapter contains warnings and instructions that generally apply to the handling of the drive shafts.



Intended Use:

The cardan shafts of the GX series are designed exclusively for the transmission of torques.

Torque specifications can be found in the product catalogue at www.neff-gewindetriebe.de

Any other use is considered misuse. The manufacturer assumes no liability for any damage resulting from misuse.

If the device is installed in machines or plants, commissioning is prohibited until it is determined that it complies with the EC machinery directive.



Attention!

This operating manual must be kept close to the device and be easily accessible and available to all users.



Attention!

Risk of damage to the drive shafts resulting from storage and transport.

Correct storage, installation and assembly as well as diligent operation and maintenance are prerequisites for the trouble-free and safe operation of the drive shafts.

The drive shafts must be protected against mechanical impacts and vibrations during transport and storage.

2 Technical data



Description of Drive Shafts GX:

The special feature of the GX series is the slimline elastic element made from a newly developed, extremely tough and highly resilient plastic.

This elastic element is very torsionally rigid, backlash-free, yet bending-elastic and therefore axially and angularly flexible. It can also withstand temperatures of up to approx. 150°C and is oil-resistant.

- Simple, compact, smooth design
- Low weight and mass moment of inertia
- High performance, high permissible speeds, large permissible bores, puncture-proof
- The torque is transmitted absolutely backlash-free and uniformly
- The coupling is low-maintenance
- The elastic element is surrounded by air on all sides, so the heat generated is dissipated well and remains cool
- The units can be removed transversely without axial displacement
- By loosening the axial screws, the drive can be easily separated and rotated without disassembly
- The torque does not cause any axial reaction forces on the shaft and bearings
- The axial bushes are firmly pressed into the elastic element. The standard design is therefore only axially movable within small limits, namely within the elasticity of the elastic element. This coupling can transmit axial forces.

3 Assembly

3.1 Aligning the units to be connected



- Aligning units during assembly
- Align the units to be connected as precisely as possible. This ensures a long service life for the coupling and maximum operating misalignment values. The sum of the operating and alignment misalignment gives the total misalignment. The permissible total misalignment values can be found in the relevant catalogue and must not be exceeded.
- The specified alignment values apply to systems at operating temperature. If alignment is carried out at a different temperature, additional dimensional deviations will occur in the system due to the difference between the alignment temperature and the operating temperature. These must be taken into account during alignment.
- After installation is complete, the alignment of the coupling must be checked again and corrected if necessary.

3.2 Axial alignment

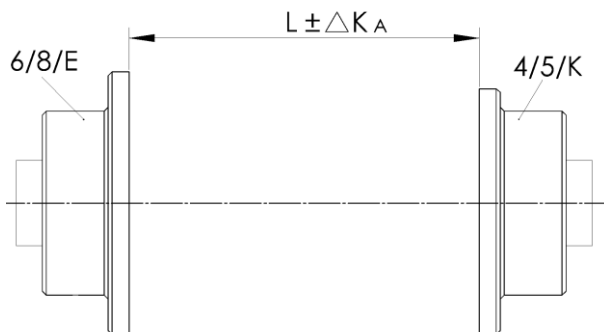


Figure 5-1 Axial alignment offset

Pos.	Description
4/6	Hub
5/8	Adapter
E/K	Hub

Determine the axial alignment offset (see Figure 5-1).

- Take the installation length L from the installation drawing.
- Align the units (installation dimension = $L \pm \Delta KA$ max).

Permissible axial alignment tolerance:

$\Delta KA \text{ max} = 0.3 \text{ mm}$

3.3 Radial alignment

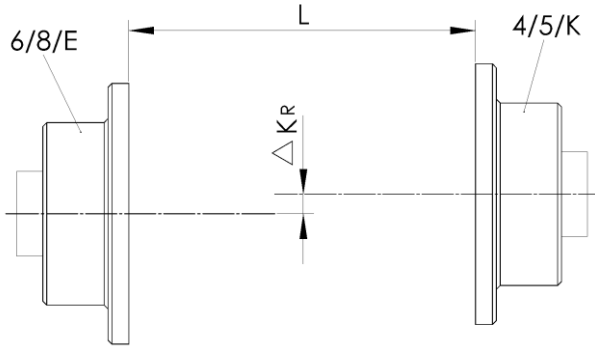


Figure 5-2 Radial alignment offset

Pos.	Description
4/6	Hub
5/8	Adapter
E/K	Hub

Determine radial alignment offset (see Figure 5-2).

- Take installation length L from the installation drawing.
- Align the units (determined deviation $\leq \Delta K_R$ max).

The permissible radial alignment tolerance ΔK_R max can be found in the following table can be taken from the following table.

Overall length L (mm)	ΔK_R max
100-200	0,08
200-400	0,17
400-600	0,35
600-800	0,52
800-1000	0,7
1000-1200	0,87
1200-1400	1,05
1400-1600	1,22
1600-1800	1,4
1800-2000	1,57
2000-2200	1,75
2200-2400	1,92
2400-2600	2,09
2600-2800	2,27
2800-3000	2,44

Table 5-1 Permissible radial alignment tolerance

3.4 Angular alignment

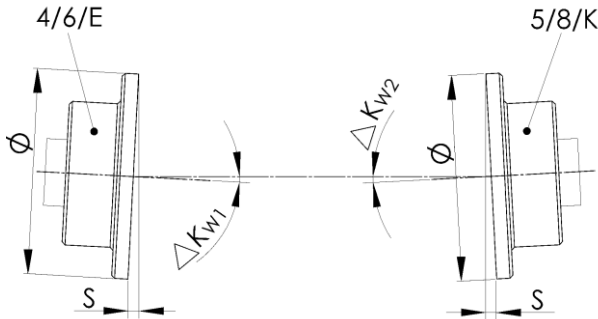


Figure 5-3 Angular alignment offset

Pos.	Description
4/6	Hub
5/8	Adapter
E/K	Hub

Permissible angular alignment tolerance:
 $\Delta KW \max = \pm 0.1^\circ$

The angular deviation must be checked individually on each flange and the largest angle in each case must not exceed the permissible value for ΔKW . ΔKW can be checked with dimension S .

According to the previous figure, the dimension $S \leq 0.0017 \times \varnothing$ must not be exceeded.

4 Malfunctions



Warning!

Switch off the system before eliminating all faults

Malfunction	Cause	Remedy
Running noises or vibrations in the system	<ul style="list-style-type: none"> ➤ Alignment error ➤ Loose screws 	Check alignment and correct. Check screw tightening torques Loose screws and correct
Breakage of elastic element(s)	<ul style="list-style-type: none"> ➤ Alignment error ➤ Impermissible torque 	Check alignment and correct. Replace defective parts. Eliminate reason for impermissibly high torque

Carry out a test run after eliminating all faults.

5 Manufacturer's Declaration

We hereby declare that the following product:

Drive Shafts GX
in the sizes
GX1 / GX 2 / GX 3 / GX 4 / GX 8 / GX 16 / GX 25
For transmitting torques

was manufactured in accordance with the EC machinery directive 2006/42/EC annex II B on incomplete machinery.

This incomplete machinery must not be commissioned until the machine it is to be incorporated in has been declared to comply with the provisions of the EC machinery directive, the harmonized standards, European standards or the applicable national standards.

The manufacturer undertakes to forward the documentation on the incomplete machinery to national authorities on request. The technical documentation was created according to annex VII B.

Person responsible for documentation:

Andreas Ries, Director of quality management

Address of the person responsible for documentation:

Neff Gewindetriebe GmbH
Karl-Benz-Str. 24
71093 Weil im Schönbuch
Germany

The following harmonized standards have been applied:

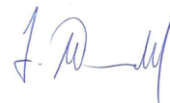
DIN EN ISO 12100-1 Safety of machinery – Basic concepts, general principles for design, part 1: Basic terminology, methodology

DIN EN ISO 12100-2 Safety of machinery – Basic concepts, general principles for design, part 2: Technical principles and specifications

The following national standards, guidelines and specifications have been applied:

BGV D8 Accident prevention regulations for hoist gears, lifting and towing equipment

Neff Gewindetriebe GmbH
Karl-Benz-Str. 24
71093 Weil im Schönbuch
Germany
+49(0)7157/53890-0



Weil im Schönbuch, 29.08.2012

Hartmut Wandel, Director