

## Operating and Maintenance Instructions

### Attention!

This document is a translation of the original operating and maintenance instructions.

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In case of using drives in hazardous areas a special operating- and maintenance manual has to be observed !

### 1. Safety

#### **1.1 For your own safety**

Vogel gearboxes are equipped with protective devices and have been checked for operational safety.

Nevertheless, the following risks exist in the case of maloperation or misuse:

- # to the health and life of the operator
- # to the drive system and other property of the firm

All persons involved in erecting, commissioning and maintaining the gear must therefore:

- # carefully read the operating instructions before performing this work.
- # always have the operating instructions to hand when performing the work, and observe them consistently.

#### **1.2 Use as intended**

Vogel gearboxes are intended as drive systems for industrial plant and machinery. They must not be used for purposes other than those stated in the order and confirmed, and must only be operated under the conditions for which they are rated.

#### **1.3 Operating personnel**

The persons responsible for the safety of the machinery or plant must guarantee that:

- # only qualified personnel are charged with working on the gearbox.
- # work on the gear or in its vicinity is forbidden to non-qualified personnel.

Qualified personnel are persons who, on the basis of their training, experience and instructions as well as their knowledge of the relevant standards, provisions, accident prevention regulations and operating conditions, have been authorised by the person responsible for safety to execute the necessary activities and who, in doing so, are able to recognize and prevent possible hazards.

(Definition of specialist operators in accordance with VDE 105 and IEC 364)

#### **1.4 Emissions**

Depending on the ambient temperature, drive system speed and loading, surface temperatures of up to 90°C may occur on the gearbox. It also emits noise up to 85dBA.

- # therefore, do not touch the gearbox - „Risk of Burning“
- # Install noise protection or wear suitable ear protectors.

### 2. Commissioning

#### **2.1 Unpacking/checking the scope of supply**

Immediately on receipt, check that the items supplied correspond to the documentation accompanying the consignment. No warranty can be assumed for deficits reported subsequently.

- # Immediately report recognisable transportation damage to the forwarder.
- # Report defects and incomplete deliveries immediately to the Vogel agent responsible for you.

## **2.2 Installation**

Before you start installation, take the following safety precautions:

- # Disconnect machinery from the electricity supply.
- # Ensure that the drive system is stationary and prevent any machine movement.
- # Check that the gearbox is in satisfactory condition. Never install or put into operation a damaged gearbox.
- # Check coordination between drive function and machine function.
- # Check directions of rotation.

## **2.3 Installation of gearboxes**

- # The installation surfaces must be even, distortion-resistant and vibration-free.
- # Align gearbox on installation surface precisely with the machine shaft to be driven. Ensure distortion-free installation in order to avoid additional loading.
- # Avoid over-adjustments. Small inaccuracies can be ironed out by the use of a suitable flexible coupling.
- # As a result of the installation of transmission elements on output and input shafts, they must be lifted only by means of the existing centring thread. Impacts and jolts against the shafts damage the roller bearings.
- # When hollow-shaft are installed, the forces arising must be diverted only via the hollow-shaft. On no account may forces be diverted via the gear housing.
- # When compressing coupling are installed, the hollow shaft inside diameter and the shaft must be degreased before assembly.
- # Tighten the screws of the compressing coupling in sequence with the prescribed torque, using a suitable torque wrench.
- # The required tightening torque is stated on the compressing coupling.

## **2.4 Vent screw in the case of oil lubrication**

Our gearboxes are generally supplied filled with lubricant. To prevent escape during transportation, the thread for the vent screw is sealed with a plug. The vent screw is supplied separately with the gearbox.

- # Remove the plug and replace it with the accompanying vent screw. Otherwise, the oil seals may be damaged as a result of increasing pressure during operation.

In the case of gearboxes filled with grease, this work is not necessary. These gearboxes have no openings.

## **2.5 Filling with oil**

Depending on the planned installation position, gearboxes with oil lubrication have an oil sight glass or an oil dipstick by which the oil level can be checked. Before putting into operation on every occasion, the oil level must be checked. When necessary, top up with the prescribed oil grade.

- # The oil level must be in the centre of the inspection glass.
- # In the case of a dipstick, there are max. and min. marks between which the oil level must lie.

## **2.6 Before switching on the first time**

N.B. The drives may be commissioned only by qualified personnel.

- # Is the mechanical securing satisfactory?
- # Are the directions of rotation correct?
- # Are all screws tightened with the prescribed torque?
- # In the case of gearboxes with oil lubrication:
- # Is the vent screw fitted?
- # Is the oil level correct?

## **2.7 During operation**

During operation, carry out regular checks.  
Pay particular attention to:

- # Unusual noises
- # Leakage or falling oil level
- # Over-elevated temperatures
- # Loose securing elements

Should problems occur, switch the machine or plant off immediately and rectify the fault.  
If it is not possible to rectify the fault, inform your Vogel Customer Service agent.

## **2.8 Transport and storage**

The gearboxes may only be transported and stored in the position defined according to the classification. This also applies to short-term storage during installation and removal of the gearboxes. The designated position is stated on our order confirmation.