

## Explosion-proof gear units

### 1 Overview

This document is valid for the following gear units from STÖBER:

- P, PA, PE, PH, PHA, PHQ, PHQA, PHV, PHVA explosion-proof planetary gear units
- KL, KS, PHK, PHKX, PHQK, PK, PKX explosion-proof servo right-angle gear units
- C, F, FS, K, S, W0 explosion-proof gear units
- R, RD11 explosion-proof variable speed gear units
- Combinations of the gear units listed above

This document contains information about safety and health protection for the users of the gear units and references to supporting documents. Users are allowed to carry out work in connection with the gear units only if they have read and understood this document and the supporting documents in their entirety. If drive components are attached, the corresponding documentation must also be observed.

### 2 Intended use

The gear units described in this documentation are intended for installation in industrial machines or systems. Explosion-proof gear units are allowed to be operated only in a potentially explosive zone that corresponds to the designation on the respective ATEX nameplate.

The following are considered non-intended use:

- Any overloading of the gear units
- Exceeding the ambient temperature range specified on the ATEX nameplate
- Operating the gear unit in ambient conditions that deviate from those described in the corresponding technical documentation
- Modifying or refitting the gear units
- Using the gear units for an application other than that defined during project configuration.

The machine in which the gear unit is installed may not be commissioned until it is determined that the machine is in compliance with regional laws and guidelines. In particular, the (Machinery) Directive 2006/42/EC and the (ATEX) Directive 2014/34/EU are to be observed in their respective scope.

### 3 Requirements for personnel

All mechanical tasks that arise during the assembly, commissioning, maintenance and removal of the product may be performed only by specialized personnel who hold a corresponding qualification in the field of metal technology.

All electrical tasks that arise during the assembly, commissioning, maintenance and removal of the product may be performed only by electricians who hold a corresponding qualification in the field of electrical engineering.

Tasks that arise during transport, storage and disposal may be performed by personnel who have been instructed in the suitable method for doing so.

Furthermore, personnel who handle the product must carefully read, understand and observe the valid regulations, legal requirements and applicable basic rules as well as this documentation and the safety instructions it contains.

## 4 Prevention of personal injury

### 4.1 Hazards from explosive atmospheres

#### DANGER!

#### **Explosive dust or gas mixtures can be ignited by hot or moving machine parts!**

Explosions can cause serious injuries or even death!

- Make sure that the transport, assembly, commissioning and maintenance locations do not have an explosive atmosphere.
- Use the gear unit only as intended.
- Comply with the instructions in the supporting operating manual.

### 4.2 Mechanical hazards

#### WARNING!

#### **Dangerous movements of machine parts!**

Moving machine parts can cause serious injuries or even death!

- ✓ Before starting the motor or drive:
  - Install all protective devices necessary for operation.
  - Make sure that no one is standing in the danger area or able to enter it unchecked.
  - Leave the danger area.

#### WARNING!

#### **Unsecured feather keys or power transmission elements can be thrown off by rotation of the drive shaft!**

Flying metal parts can cause serious injuries!

- Assemble the provided power transmission elements properly or remove them before a test run.

**⚠ WARNING!****Sinking or falling of gravity-loaded axes or vertical axes after switching off the motor due to gravity!**

Falling gravity-loaded axes or vertical axes can cause serious injuries or even death!

- Be aware that the holding brake of the motor does not offer sufficient safety for persons that are in the hazard area of gravity-loaded axes or vertical axes.
- Move gravity-loaded axes or vertical axes to their lowest position and lock or brace them mechanically before persons are allowed to enter the hazard area.

**4.3 Thermal hazards****⚠ CAUTION!****The surface of the gear unit can reach temperatures over 65 °C during operation!**

Touching the hot gear unit surface can cause severe skin burns!

- Do not touch the gear unit during operation or immediately afterward.
- Allow the gear unit to cool sufficiently before carrying out work on the motor.
- Wear protective gloves when working on the gear unit.

**5 Transport**

Lifting and transporting the gear unit may require lifting gear (e.g. a crane), depending on the weight. The weight of your gear unit is specified in the accompanying delivery documents.

**⚠ WARNING!****Suspended loads!**

Loads that become loose and fall during the lifting process can cause serious injuries or even death!

- Observe the instructions in this chapter.
- Cordon off the danger zone and ensure that no one stands under the suspended loads.
- Wear safety shoes.

In order to prevent the gear unit from falling or getting damaged during transport, observe the following:

- Do not use the output shaft or attachment parts to lift or fasten the gear unit.
- Fasten loads attached to the gear unit separately, as the eye-bolts of the gear unit are designed only for the weight of the gear unit.

**6 Installation**

Inspect the product before assembly for damage due to transport or storage. If the product has been damaged, do not install it; instead, contact the STOBBER Service department. Check whether the requirements for ambient conditions at the assembly location are satisfied.

**ATTENTION! Shaft seal rings can be damaged by solvents!** Prevent shaft seal rings from coming into contact with solvents when cleaning and degreasing the components.

**ATTENTION! Damage to encoders, bearings and shafts due to improper assembly!** Never use force when installing machine elements with fittings, e.g. hitting power transmission elements, shafts or the motor or gear unit housing with a hammer, but rather install them in accordance with the instructions in the documentation.

**7 Supporting documents**

You can view or download supporting documents for the product if you read off the serial number from the nameplate of the product and enter it on the Internet at the following address: <https://id.stober.com>

Alternatively, you can use a suitable mobile device to scan in the QR code on the nameplate of the product in order to be linked to the supporting documents.