

Motors

Safety Notes and Instructions on Use

Safety Notes

R911338599
Edition 03

Important Safety and Handling Notes

This documentation contains important safety and handling notes about Rexroth motors. Improper use of these motors and non-observance of safety notes can lead to personal and material damage. Should no documents exist in your language, please apply to your Rexroth sales partner. You will find further notes in the instruction manual to the respective product.

WARNING

Danger of life due to non-observance of the following safety notes! Heavy personal and material damage at improper behavior!

Read, understand and observe the safety notes before start-up and when using.

All work regarding transport, connection, start-up and maintenance must be carried out by qualified and responsible personnel.

Observe EN 50110-1, VDE 0105, IEC 60364 and notes on the products, the instruction manual and valid national, local and plant-specific regulations and standards.

Improper behavior can cause heavy personal and material damage.

Basic hazards can come from the products. Please observe:

- ▶ Protection against Electrical Voltage
- ▶ Protection against Mechanical Hazards
- ▶ Protection against Magnetic and Electromagnetic Fields
- ▶ Protection against Burns
- ▶ Protection against Component Damage due to Electrostatic Hazard

Please observe the notes in the following sections.

Appropriate Use

Prerequisites for appropriate and safe use of the motors are proper transport, storage, assembly and connection and careful maintenance and operation. The motors have been designed for installation in industrial machinery. Standards and directives are valid according to CE declaration of con-

formity. The conditions on the application site must be according to all nameplate details. Use in hazardous areas is forbidden.

The machine manufacturer must evaluate the electric and mechanic safety as well as environmental influences in the assembled state of the machine according to the Machine Directive 2006/42/EC and DIN EN 60204-1 (safety of machines). The electric installation must comply with the protection requirements of the EMC Directive 2014/30/EU. The proper installation is in the responsibility of the plant construction firm. Observe the EMC notes of the converter manufacturer.

Transport and Storage

Immediately inform the carrier about transport damage.

Start-up of damaged products is forbidden. Only use suitable, adequate dimensioned means of transport. Remove existing transport locking devices before start-up and store them for later usage.

WARNING

Risk of injury and material damage due to improper handling during transport!



Use only suitable lifting tools, like e.g. lifting sling belts. Before use, secure lifting equipment and eye-bolts and check firm fixture.

Never be under hanging loads.

Do not lift the motor on shaft, fan housing or other components.

Use suitable protective equipment and protective clothing during transport, and wear safety shoes.

NOTICE

Never touch the connection points of electrostatic sensitive devices!



Installed components (e.g., temperature sensors, encoder) may contain electrostatic sensitive devices (ESD). Heed the ESD protective measures.

Store the motors in their original package at a dry, dust free, vibration free and light protected place without direct solar radiation. Before storage, empty the coolant (frost damage).

At start-up after storage, observe the notes of the instruction manual.

Assembly

WARNING

Damage to persons and property at installation work!
Crushing hazard of fingers and hands due to strong attractive forces of the magnets!



Before working, secure the machine against accidental movements and against unauthorized operation. Do not work on moving or unsecured facilities.



Before loosening mechanical connections, secure motor and power supply against falling down.



Work with safety gloves only and use suitable assembly devices.

WARNING

Electromagnetic / magnetic fields! Health risk for persons with pacemaker, metallic implants and hearing devices! Material damage.



Danger by magnetic and electromagnetic fields on live conductors or permanent magnets of electric motors.

Keep off persons with pacemakers and metallic implants from these motor parts.

Access to areas in which such drive components are assembled and operated, is forbidden for above-mentioned persons or only allowed after consulting a doctor.



Keep watches, credit cards, check cards and identity cards with magnetic strips away from magnetic fields.

CAUTION

Uncontrolled movements! Risk of injuries!

Motors in vertical axes are not self-locking when de-energize. Prevent a sinking of the axis with appropriate holding devices.

Observe a suitable support, a well motor fastening and exact alignment. Draw on or draw off the belt pulleys and couplings only with suitable equipment, heat them if neces-

sary and cover them with a protection against contact. Select assembly parts according to the balancing state of the motor. Avoid improper belt tensions. Ensure sufficient fresh air supply for ventilated motors and coolant supply for liquid cooled motors.

Observe permitted axial and radial forces of the motor.

NOTICE

Motor damage due to ingress of liquids!

Prevent penetration of liquid into the motors. Do not assemble open, not hermetically sealed gearboxes.

NOTICE

Motor damage due to strokes!



Do not hit onto the shaft end or other motor parts.

Electrical Connection

WARNING

High electrical voltage! Danger to life, risk of injury due to electric shock.



Before working on electrical connections, ensure de-energization and secure against resetting.

All work must be carried out at motor standstill.

Never connect or disconnect plug connectors under load.

Do safe protective conductor terminal.

While the rotor or primary part is rotating, motors with permanent magnet excitation create a voltage > 60 V at the motor connections.

Observe the type plate details and the connection scheme. Observe the notes about use of motor power cables (minimum cross-section, laying type, environmental temperature, insulation material) in the instruction manual.

Ensure permanent safe, electrical connections. No foreign bodies, dirt and humidity are allowed to exist in terminal boxes and connectors. Close cable entry openings and terminal boxes that are not required dust and water proof. Use only original connection accessories.

Connect additional protective conductor terminals, if necessary.

Before startup, check the efficiently function of the holding brake at motors with holding brake.

Commissioning and Operation

WARNING

High electrical voltage! Danger to life, risk of injury due to electric shock.



Live parts are dangerous.

Do not open covers or flange sockets during operation.

Never connect or disconnect connections under load.

Operation is only allowed with connected protective conductor on provided points.

WARNING

Risk of injury due to rotating motor shaft!



Do not remove covers, machine parts or protective devices during operation.

Do not touch on or in rotating parts.

Do not enter moving area of the machine.

Prevent unintended access of persons due to suitable safety measures.

CAUTION

Risk of burns! Hot surfaces with temperatures over 60 °C.



Do not touch hot surfaces.

Install protection against contact, if necessary.

Prevent contact of temperature-sensitive parts (e.g. cables) on hot surfaces.

At start-up after storage, observe the notes of the instruction manual. Check before start-up, that motor and components are undamaged and observe the following points:

- ▶ Control motor and fan unit on cleanliness.
- ▶ Check correct design of all electrical connections.
- ▶ Check impeccable functionality of the holding brake, if existing.
- ▶ Secure keyways against ejection.
- ▶ Control density of coolant connections, if existing.
- ▶ Control monitoring devices and the diagnostic / error messages of the controller.

Keep the environmental and operation conditions and technical data during operation.

Switch off the motor if any deviations to normal operation, e.g. increased temperature, exceptional noises, increased vibrations a.s.o., occur. Determine the cause and contact Bosch Rexroth, if necessary.

Protective devices are not allowed to be set out of function, even in test operation.

Further Information

Keep this safety and start-up notes!

You will find further notes in the instruction manual to the respective product. It is sent to you on demand by indicating the product type or the part number. It is also available for download in the Bosch Rexroth Media Directory.

www.boschrexroth.com/various/utilities/mediadirectory/

China RoHS 2

www.boschrexroth.com.cn/zh/cn/home_2/china_rohs2

Bosch Rexroth AG
Bgm.-Dr.-Nebel-Str. 2
97816 Lohr a.Main, Germany
Phone +49 9352 18 0



www.boschrexroth.com/electrics

Copyright

© Bosch Rexroth AG 2020

This document, as well as the data, specifications and other information set forth in it, are the exclusive property of Bosch Rexroth AG. It may not be reproduced or given to third parties without its consent.