

## Safety Guidelines

These safety guidelines are user hints only, and may not be complete!



### Warning!

Life threatening! Do not touch voltage-carrying cables and components!

**To prevent injury or damage, only professionals and suitably qualified personnel should work on the units.**

### Danger!

This caution applies when:

- ☐ the electromagnetic units are used incorrectly
- ☐ the electromagnetic units are modified or converted
- ☐ the relevant safety standards for safety and /or installation conditions are ignored.



### Warning!

Before installation and initial operation, please read the installation and operation instructions carefully. Please follow the safety guidelines to avoid injury or damage.

The electromagnetic units have been developed in accordance with the latest technology regulations for the time and are, at the point of delivery, operationally safe.

### Information:

Without measuring the conformity, these products are NOT suitable for use in areas where there is a high danger of explosion. This statement is based on the regulation 94/9 /EC (ATEX regulation).

### Caution!

- ☐ Only professional, qualified personnel, trained in the transport, installation, starting operations, maintenance and general operation of these units as well as the relevant standards, should be allowed to carry out this work.
- ☐ Technical data and specifications (type tags and documentation) must be followed!
- ☐ The correct connection voltage must be connected according to the information on the type tag.
- ☐ Never loosen electrical connections or carry out installations, maintenance or repairs while the connecting voltage is switched on!
- ☐ Cable connections must not be pulled taut!
- ☐ Check electrical components for signs of damage before putting them into operation. Never bring them into contact with water or other fluids!
- ☐ The **braking torque can be lost**, when the friction lining or the friction surfaces come into contact with oil or grease!

## Appointed Use

mayr<sup>®</sup> products are for use in machines and systems and must only be used in the situations for which they are designed and ordered.

Using them for any other purpose is inappropriate.

## Guidelines for Electromagnetic Compatibility (EMC)



In accordance with the EMC regulations 89/336/EEC, the single components produce no emissions. However, functional components such as the line-side energising rectifiers for the units along with the phase demodulators, the ROBA<sup>®</sup>-switch or similar controls can produce disturbance which lies above the allowed limit values.

For this reason it is important to read the installation and operational instructions very carefully and to keep to the EMC guidelines.

## Device Conditions



The catalogue values are guideline values which can, in certain cases, vary. When selecting the units, please allow for varying installation situations, torque fluctuations, permitted friction work, run-in behaviour and wear as well as for general ambient conditions, all of which should be carefully assessed and adjustments made accordingly.

### Caution!

- ☐ Connection and fixing dimensions must be adjusted according to the size of the units at the place of work.
- ☐ The units are designed for a relative duty cycle of 100 %.
- ☐ The units are **only** designed for dry running. The torque can be lost, if the friction lining comes into contact with oil, grease or water.
- ☐ The torque is dependent on the present run-in condition of the units.
- ☐ Please check the manufacturer-side corrosion protection of the metallic surface.

## Protection Class I

This protection can only be guaranteed if the basic insulation is intact AND if all conductive parts are connected to the Protective Earth conductor. Should the basic insulation fail, the contact voltage cannot function. (VDE 0580).

## Nominal torque $M_2$ in new condition for clutch and brake

In new condition, approximately 50% of the **catalogue nominal torque  $M_2$**  is transmitted if:

- a: static operation is used or
- b: when below, the minimum values (see Table 1) in dynamic operation fall below.

In order to reach the given nominal torque  $M_2$  it is necessary to reach a dynamic operation with a minimum **friction work  $Q_a$**  or a **minimum speed  $n$**  (see Table 1) in the run-in phase.

Table 1

Size	Min. friction work $Q_a$ [J]	Min. speed $n$ [rpm]
3	16	300
4	29	250
5	55	200
6	105	160
7	200	130
8	380	120

## Ambient Temperature $-20\text{ °C}$ up to $+40\text{ °C}$ Warning!

At temperatures at or around freezing point, a dramatic fall in torque can be caused by condensation, or the rotors can freeze up. The user is responsible for providing protective measures against these situations.

## User-implemented Protective Measures:

- ☐ Please cover moving parts to prevent squeezing and catching.
- ☐ Place a cover on the magnetic part to protect against injury through high temperatures.
- ☐ Protect against electric shock by installing a conductive connection between the magnetic part and the protective earth conductor on the permanent installation (Protection class I). Examine the continuous conductor connections to all contactable metal parts according to the standards.
- ☐ Protect against highly inductive switch off peaks by installing varistors, spark quenching units or similar devices, according to VDE 0580/2000-07, Paragraph. 4.6, to prevent damage to the coil insulations or switch contact erosion in extreme conditions (this protection is included in *mayr*<sup>®</sup>-rectifiers).
- ☐ Allow for additional protective measures against corrosion if the units are subject to extreme ambient conditions or is installed in the open air, unprotected from the weather.
- ☐ Take precautions against freeze-up of the armature disc and the rotor in high humidity and low temperatures.

## Guidelines, Standards and Regulations followed:

98/37/EC	Machine regulations
73/23/EEC	Low Voltage regulations
89/336/EEC	EMC regulations
DIN VDE 0580	Electromagnetic units and components, general specifications

## Please observe the following standards:

DIN EN ISO 12100-1 and 2	Machine safety
DIN EN61000-6-4	Noise radiation
DIN EN61000-6-2	Interference immunity
EN60204	Machine electrical equipment

## Liability

- ☐ The information, guidelines and technical data in these documents were up to date at the time of printing. Demands on previously delivered units are not valid.
- ☐ Liability for damage and/or operational malfunctions will NOT be taken when:
  - the installation and operational instructions are ignored or neglected.
  - units are used inappropriate
  - the units are tampered with or altered.
  - the units are worked on unprofessionally
  - the units are handled or operated incorrectly

## Guarantee

- ☐ The guarantee conditions comply with the Chr. Mayr GmbH + Co. KG. Sales and Delivery Conditions.
- ☐ Mistakes or deficiencies are to be reported to *mayr*<sup>®</sup> at once!

## Conformity Marks

The product conforms to the CE according to the Low Voltage Regulations 73/23/EEC

## Identification

*mayr*<sup>®</sup> components are clearly marked and described on the type tag:

<p><b>Manufacturer</b></p> <p><b><i>mayr</i><sup>®</sup></b></p> <p><b>Product name / Type</b></p> <p><b>Article number</b></p> <p><b>Serial number</b></p>
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