BAUMÜLLER
BAUMÜLLER NÜRNBERG GmbH
Ostendstr. 80-90
90482 Nürnberg www.baumueller.com

Supplement to TAM00552 "General operating instructions with Safety Information"

For AC synchronous kit motors

TAM 00617

1. General

	This TAM00617 for AC synchronous kit motors is an addition to TAM00552 "General operating instructions with safety information for AC motors"! Kits are not complete electric motors, but only operate as electric motors after the motor components have been installed in the machine in accordance with the regulations. Therefore, final qualifications and evaluations according to the EU/UK directives must be provided by the machine manufacturer, e.g. for EMC
	Any unauthorized reconstruction and changes (incl. damages) of the kit motor scope of delivery are not permitted for safety and warranty reasons. The following safety instructions must be observed in particular due to the very high magnetic/interference force generated by synchronous kit rotors! Disregarding or improper behavior may cause severe personal injury and property damage.
	All work may only be carried out by qualified electric professionals! All work is to be carried out only if the kit is de-energized and secured against restarting! If possible, carry out all work (also on auxiliary circuits) with the rotor at standstill! In the case of AC synchronous motors with permanent magnet excitation, voltages >50V can occur at the motor contacts when the rotor is rotating. In particular, national regulations for working in electrical systems / on machines must be observed
	Due to the strong magnetic fields generally risks to health can occur.. Since the magnetic flux density in synchronous motors also results from the magnetic fields of the permanent magnets, the electromagnetic compatibility as well as magnetic force is influenced by the rotor. Depending on the high magnetic pull, special care must be taken in the vicinity of the unhoused rotor. The heavier, larger, closer objects (well magnetized such as steel or easily interfered with such as electronic devices, magnetic data carriers, etc.) are brought to the magnetic rotor, the higher the risk of damage/injury. Since magnetic forces are not visible, they are often underestimated - magnetic pull acts abruptly within the close range - and can grow to several 100 kg.

2. General use regulations

	Work not to be carried out by persons with pacemakers

- Keep easily interfering objects / devices such as watches, medical implants and magnetic data carriers / components (e.g. credit cards, floppy disks, cell phones, electronic car keys, etc.) away from the close range (for motor sizes <132 at least 100 mm) of the synchronous rotor
- Do not place any metallic objects too close to the rotor because of the high magnetic pull, e.g. medical metallic implants /
- Attach clearly visible warning notices (e.g. permanent adhesive labels) to the machine (such as "Warning of magnetic field" - sign DIN 4844-D-W013))
- Wearing of protective clothing, e.g. work gloves during mounting, demounting, maintenance and repair work.
- Provide suitable safety devices, auxiliary devices and emergency aids and use them properly.
- In case of damage to the parts, in particular to the magnet bandage or the magnets themselves, further use is not permitted. Mechanical forces on the magnets are not permitted.
- Where possible, all work with synchronous magnetic rotors must be carried out by at least two persons.
- Ensure that all work is carried out by effectively trained personnel only.

3. Regulations for storage and transport

- Mark and identify storage locations of synchronous rotors ("Caution: strong magnets", warning signs, etc.).
- Always store synchronous rotors tightly packed over the entire surface and well secured. Tensioning straps may not be stretched over the magnets. Leave the original packaging on the rotor until immediately before mounting. Use non-magnetic, clean and dry packaging material having a recommended thickness of at least 2 cm (e.g. after demounting).
- Observe the warnings on the respective packaging (incl. the rotor) and do not remove them.
- Make sure that the environment is low in vibration and avoid shocks, as otherwise magnets may detach from the rotor.
- Keep storage areas dry
- Protect storage areas from dust, especially metal abrasion, and heat.
- When transporting machines or machine parts with rotors already mounted in the housing: Lock axis (axes) against unintentional movement (due to lack of self-locking).

4. Regulations for mounting / demounting

- Do not remove the packaging from the rotor until immediately before mounting.
- - Neither the magnets nor the rotor belt may be damaged, otherwise there is a risk of magnet parts coming loose.
- - If possible, at least two persons should carry out the installation work and take protective measures, such as wearing work gloves.
- - If possible, do not lay the magnetic rotor on its surface, but use mounting devices and magnetic rotor surface protection when mounting the rotor.
- - Hold steel tools firmly (with both hands) and slowly move them to the sides of the rotor, ensuring the necessary safety distance or using non-magnetic tools.
- - Unintentional movement of a housing or rotor that has not yet been fastened (e.g. due to magnetic force) must be prevented. There is a risk of injury and damage to the rotor bandage or the magnets themselves.
- - If necessary, use specially manufactured and suitability-tested mounting devices to facilitate and secure the work.

5. Emergency behavior including immediate measures before and in case of accidents

- Before starting any work with synchronous motor kits, please assess the respective risk potential with your responsible specialist for occupational safety and occupational medicine. Depending on the evaluation of the individual working conditions and the associated hazards, safety precautions including emergency plans must be defined and communicated to the employees concerned in a long-term manner.

Emergency plan measure examples:

- If the machine or motor components are connected to the current supply immediately press EMERGENCY STOP
- Immediately request „First aid* and if parts of the body (hand, fingers, foot, toes, etc.) are trapped between the housing and the rotor or between the rotor and a magnetic part (e.g. steel plate, steel carrier, machine platform, tool) as a result of high magnetic attraction forces, you need effective emergency aids that are available and have been tested beforehand for suitability (such as a massive hammer and wedge with the appropriate wedge angle, material and size or lifting gear, etc.).