

## 1. General hazards

These safety instructions apply in conjunction with the product's operating and maintenance manual and must be strictly observed. Electrical machines contain dangerous live and rotating parts; use other than as its intended use, incorrect operation, inadequate maintenance or unauthorised removal of protective devices can lead to serious personal injury and property damage. Steps must be taken to ensure that only qualified personnel (see DIN VDE 0105 or IEC 364 for definition of skilled personnel) are instructed to perform any work on the equipment (design, transport, assembly, installation, commissioning, maintenance, repair, dismantling), and that they are provided with and refer to the necessary documentation for installation, commissioning, operation, maintenance and repair of the equipment.

## 2. Intended use

The machines are intended for industrial electrical power installations. The conditions in the place of use must comply with all specifications on the rating plate, in particular the specified degree of protection must be provided by the driven machine. Detailed information on this is given in DIN VDE 0530 part 1.

## 3. Transport, storage

The eye bolts and shackles on the equipment are intended **only** for transportation of the equipment; no additional parts or loads must be attached. Shaft blocks fitted for transport must be removed before initial operation. Electrical equipment with visible signs of damage must not be put into operation.

## 4. Mounting the equipment

The electrical equipment must be mounted in accordance with the technical data and operating conditions specified in the documentation belonging to the equipment, and in compliance with both the general safety and installation regulations and the specific regulations that apply to the installation and factory. For mounting arrangements with shaft end downwards, implement measures to prevent foreign matter from falling into the ventilation system. For mounting arrangements IM B14 and IM B34, ensure that the maximum depth of engagement specified in the catalogue is not exceeded (damage to winding). Do not obstruct ventilation holes. Maintain the minimum clearances specified in the dimensioned drawings.

## 5. Electrical connection

Connection to the electrical supply must only be performed by qualified technical personnel; the equipment must be disconnected and safeguarded against unintentional restarting. All necessary information for this is contained in the operating and maintenance manual supplied with the equipment. Before switching on the machine for the first time, check whether the electrical equipment is rotating in the specified direction.

Exceeding the tolerances specified in DIN VDE 0539 part 1/DIN EN 60034-1 ( $\pm 10\%$  for voltage,  $+3/-5\%$  for frequency) and/or any waveform distortions or symmetrical deviations may result in increased heating and can affect electromagnetic compatibility.

Since 1.1.2008 the transition period for the adjustment of supply voltages with increased tolerances ends within the EU. Since then in Europe apply only the following tolerances: 230/400 V  $\pm 10\%$  at 50 Hz or 400/690 V  $\pm 10\%$  at 50 Hz.

Therefore is it no longer applicable for engines for IE1, IE2, IE3 to specify a voltage range on the nameplate. Here is expressed exclusively the rated voltage (230/400 V 50 Hz or 400/690 V 50 Hz). At this obtains generally a voltage tolerance of  $\pm 10\%$  according to EN 60034-1 Range B.

### Before closing the terminal box, it is essential to check that

- ∅ wiring is in accordance with the wiring diagram;
- ∅ **all terminal-box connections have been tightened securely, including the lower terminals (nuts) on the winding leads;**
- ∅ all minimum clearances have been observed (up to 500 V: greater than 8 mm; up to 750 V: greater than 10 mm; up to 1000 V: greater than 14 mm);
- ∅ the terminal box is clean inside and contains no foreign matter;
- ∅ unused cable entries are blanked off and the screw plugs with seals have been tightened firmly;
- ∅ the seal in the terminal-box lid is clean and securely glued, with all sealing surfaces in the proper state to guarantee the relevant degree of protection.

## 6. Operation

The maintenance steps specified in the operating and maintenance manual must be performed at regular intervals by qualified personnel. Where any deviation from normal operation occurs, in particular if there are changes in noise or temperatures, or tripping of safety devices, the cause must be identified and rectified by qualified personnel. Switch off the equipment immediately in case of doubt.

## 7. Important information

Owing to the great variety of operating conditions, the operating and maintenance manual can only cover general usage situations for reasons of clarity and understanding. For special cases e.g. unusual environmental conditions or special safety requirements, agreement must be reached with the manufacturer or the distributor.

## 8. Warranty

Warranty cover assumes that the safety instructions and requirements in the operating and maintenance manual have been followed, and that the equipment has been used in accordance with the intended use.

If you have further questions, requests or comments, please contact us specifying the motor type and motor number.