ELECTRIC MOTORS FOR INVERTER DUTY

CAST-IRON CASING

Technical characteristics

The motors included in this series are normally used for spindles, lathes, grinders, milling cutters, conveyors, roller ways, pumps and centrifugal fans, in the textile industry, etc.

With optimised operating functions, this series of motors for inverter duty has been developed focusing on the design of the magnetic circuit built with low-loss magnetic laminations and on the configuration of the magnetic circuit. The windings are designed with special features that eliminate the inverter-induced harmonics that generate disturbance for the machine.

Fed with voltage that varies in relation to the frequency, the motor runs at constant torque up to the rated frequency.

Instead, for higher frequencies it operates at constant power.

The windings are built with a leading brand wire with double enamel, class H insulation made with high-temperature resistant polyesterimide resins. Insulation between the phases and to earth is optimised by the excellent insulating materials used, such as Mylar and pure Nomex.

Final impregnation with hot polymerising varnishes provides the entire assembly with a high degree of insulation and excellent mechanical toughness. For particularly aggressive environments the windings undergo special tropicalization treatments. Thanks to the high-precision mechanical machining operations and the exacting care during the dynamic balancing of the rotating part, the operating range is very extensive, and frequencies vary up to 200 Hz.

Grease-lubricated ball bearings are available for all sizes; dimensions are indicated in the table. Generally, the bearing on the non-drive end is mounted with a compensation ring to create a light preload on the bearing. This reduces any vibrations to an absolute minimum. Type 2RS bearings with C3 clearance can be also mounted, on request.

There is also a wide range of products for applications that require oversized bearings and lubrication systems.

A half key is used to balance the rotating part.

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