Ansaldo Sistemi Industriali

Series MS
Synchronous motors

General

The Ansaldo Sistemi Industriali production scope includes a complete series of synchronous motors, designed and manufactured in the Monfalcone plant.

Type designation

The Ansaldo Sistemi Industriali series of synchronous motors covers different types of construction, degrees of protection and methods of cooling. Coding indications are in accordance with IEC and NEMA standards.

- **MSN:** drip-proof, open loop self ventilated motors. Standard protection: IP 23. Cooling: IC 01. (DP or WP type I).
- **MSCB:** totally enclosed, open loop ventilated motors, with provisions to fit external air ducts. Standard protection: IP 44. Cooling: IC 31 (TEPV).
- **MSCR:** totally enclosed, closed loop self ventilated motors with air to water heat exchanger. Standard protection: IP 44. Cooling: IC 81W (TEWAC).
- **MSCT:** totally enclosed, closed loop self ventilated motors with built on air to air heat exchanger. Standard protection: IP 44. Cooling: IC 611 (TEAAC).

Rotor design

Different rotor designs are provided according to both motor size and number of poles:
Clover leaf design (used on smaller four pole motors) **Cylindrical rotor** (used on larger medium speed machines) **Solid pole rotor** (used on larger four pole machines) **Spider Rotor**, either laminated or fabricated (used on all sizes of low speed machines).

Mounting arrangements

Standard frame sizes are 450 to 1000 (corresponding to the shaft heights in millimeters, IEC standards) Larger frame sizes are identified with numbers 10, 11, 12, 13 ...
The most common types of construction are with endshield bearings (IM 1001) for frame sizes 450 to 1000; with pedestal bearings (IM 7101, IM 7121, IM 7301, IM 7311 or IM 7321) for larger sizes. Other types of construction and mounting arrangements are available on request.

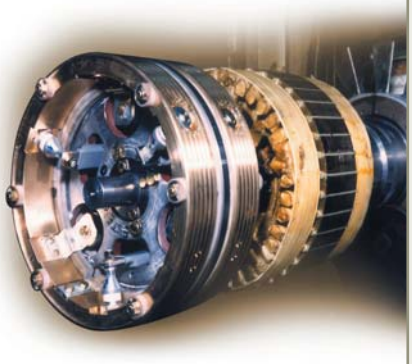
Exciter

Our standard brushless exciter is an alternator with rotating armature and stationary field. Rotating diodes are connected in three-phase bridge configuration and are protected by a specially designed starting device. For variable speed machines we use either sliprings (for fast response applications: steel millls) or a wound rotor induction generator (rotating transformer) complete with three-phase diode rectifier.

IEC ISO NEMA IEEE NFPA

The Electric Motors and Generators Business Unit is certified

ISO 9001 ISO 14001



Power rating:
1000 - 30,000 kW

Voltage:
up to 15 kV

Frequency:
50 Hz, 60 Hz, and variable frequency with converter

Mass:
3000 - 250,000 kg

Frame size:
450 mm to 1000, 10, 11, 12, 13

Number of poles:
4 - 36

for further details on construction features and excitation system see technical sheets.

Compressor and vertical pump applications

Synchronous motors are preferred for standard applications when a reduced reactive power absorption is required. These machines generate lower operating costs and yield higher efficiencies than squirrel cage induction machines. Designed to meet specific application needs on a job by job basis, these motors provide outstanding performance and reliability.

Wind Tunnel Applications

These motors are another example of our engineering expertise. Designed for Variable Frequency drives these machines are subject to dimensional constraints given the fact that the motor has to fit into the tunnel nacelle. The shaft end is specially designed so that the fan can be mounted directly onto the motor shaft. These robust machines must be able to withstand significant forces due to sudden imbalances in case fan is damaged during testing. Because the machines are situated in hard to reach places they are designed for low maintenance and high reliability.

Cycloconverter driven motors

Our cycloconverter motors were designed for heavy duty steel mill applications where high torque is required. To meet production flexibility, these machines allow reversible operation according to NEMA standards MG 1 relative to Metal Rolling Mill and Reversing Hot Mill Motors. Their slip ring excitation system and overall design guarantee easy maintenance. These machines may be supplied with either top mounted air to water heat exchangers or pipe ventilation located under the machine.

For further information contact: **Ansaldo Sistemi Industriali S.p.A. - Motors, Generators & Drives** Via Marconi 1 - 34074 Monfalcone (GO) Phone +39.0481.717.111 Fax +39.0481.717.330