

Ambient Temperature

Temperature of the medium, such as air, water or earth, into which the heat of the equipment is dissipated.

Ampere (AMP)

A measure of the rate of current through the motor.

Base Speed

Nameplate rating where the motor will develop rated HP at rated load and voltage. With AC systems, it is commonly the point where 60 Hz is applied to the induction motor.

Breakdown Torque (BDT)

The maximum torque that an AC motor will develop with rated voltage applied at rated frequency while rotating.

Cogging

A condition in which a motor does not rotate smoothly but "steps" or "jerks" from one position to another during shaft revolution.

Cogging is most pronounced at low motor speeds and can cause objectionable vibrations in the driven machine.

Continuous Duty

The continuous rating is the maximum constant load that can be carried continuously without exceeding established temperature rise limitations under prescribed conditions of load and within the limitations of established standards.

Definite Purpose Motor

Any motor design, listed and offered in standard ratings with standard operating service conditions other than usual or for the use on a particular type of application (NEMA).

Duty Cycle

The relationship between the operating and resting times or repeatable operation at different loads and/or speeds.

Efficiency

Ratio of power output to power input indicated as a percentage. In motors, it is the effectiveness with which a motor converts electrical power into mechanical power.

Frequency

Number of cycles per second of alternating current 60HZ used primarily in the United States, 50 HZ normally used overseas.

Full Load Torque (FLT)

The torque necessary to produce rated horsepower at full load speed.

General Purpose Motor

The motor has a continuous duty rating and NEMA A or B design, listed and offered in standard ratings with standard operating characteristics and mechanical construction for use under usual service conditions without restriction to a particular application or type of application (NEMA).

Horsepower (Hp)

Output power rating of the motor.

Intermittent Duty

A motor that never reaches equilibrium temperature, but is permitted to cool down (to ambient temperature) between operations. For example, a crane hoist or machine tool motor is often rated for 15, 30 or 60 minute duty.

Rotor

The rotating member of a machine with a shaft.

Service Factor (SF)

When used on a motor nameplate, a number which indicates how much above the nameplate rating a motor can be loaded intermittently without causing serious degradation (i.e. a motor with a 1.15 SF can produce 15% greater torque than one with a 1.0 SF, within temperature constraints). Measures the overload capacity built into a motor.

Stator

The stationary portion of the magnetic circuit and the associated windings and leads of a rotating machine.

Torque

A turning force applied to a shaft, tending to cause rotation. Torque is normally measured in "pound feet" and is equal to the force applied times the radius through which it acts.

Hazardous Duty

These motors are totally enclosed (fan cooled or non-ventilated) Motors designed for applications in hazardous atmospheres containing explosive gases and/or combustible dusts.

Insulation (Ins)

In motors, classified by maximum allowable operating Temperature. Class A = 105 degrees Celsius, Class B = 130 degrees Celsius, Class F = 155 degrees Celsius, Class H = 180 degrees Celsius

Watts (W)

A unit of electrical power; 746 watts equal one horsepower.

NEMA (National Electrical Manufacturers Association)

This organization establishes certain voluntary industry standards relating to motors: such as operating characteristics, terminology, basic dimensions, ratings and testing.

Alternating Current (AC)

The standard power supply available in homes, factories, farms, etc.

Direct Current (DC)

Type of power supply available from batteries, generators or a rectified source used for special purpose applications.

Sleeve Bearing

Preferred where low noise is important, as on fan and blower motors. Unless otherwise stated, sleeve bearing motors can be mounted in any position, including shaft-up or shaft-down.

Ball Bearing

Used where high shaft load capacity is required or where periodic lubrication is not practical or possible