Manufacturing Technology Training
An IMTMA initiative

Selection and Sizing of Motors for Industrial applications
Date : 8 to 9 February, 2024
Time : 1340 Hrs to 1700 Hrs (Online Mode)

INTRODUCTION

Electric Motors are an essential part of machinery playing an important role both in Industrial as well as domestic purposes. Motors are used in various industrial applications such as operating cranes, blowers, machines, machine tools, compressors, conveyors, hydraulic & oil pumps, robots, electric locomotives and host of other equipment. Consumer goods such as washing machines, mixers, water pumps, fans, lifts also need motors.

An understanding of the types of motors, principle of working, parts, method of starting, speed control, mounting methods, temperature rise, insulation, protection, cooling methods, duty cycles, torque and speed characteristics, efficiency and other aspects of motors are very important. Proper understanding about all these topics, selecting suitable type and sizing of motor for the required application is extremely important. Proper selection of a motor for a given application will provide a long and trouble-free operation besides being energy efficient.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organizing a 2 day online programme on Selection of Motors for Industrial applications.

FOCUS AREAS

- Types of motors
- Operating principles of AC Motor
- Characteristic curves
- Advantages & Disadvantages
- Applications
- Understanding Motor specifications
    - Duty cycle
    - Efficiency
    - Shaft extension and loading.
    - Vibration and Noise levels -Allowable values
- Guidelines for AC Motor selection
    - Friction and Friction coefficient
    - Load Inertia – Motor Inertia - Allowable limits.
    - Load torque- Acceleration torque
    - Motor torque and load torque
    - Power Calculations
- Variable speed drive- Characteristics.
- Sizing of AC motors – Case studies
    - Crane motor – Constant Torque
    - Centrifugal Fan Motor – Variable torque
    - Conveyor motor
- DC Motor – Brush and Brush less Motors
- Working principle.
    - Characteristics
    - Applications

KEY TAKE AWAYS

After undergoing the program, the participants will be able to have over view of:

- Electric Motors used in Different industries
- Working principle
- Application and uses
- Frame sizes
- Duty cycles
- Effect of Ambient temperature and Insulation class
- Speed Control and their effects
- Understand and estimate Force, Inertia and Torque
- Sizing and selection of AC motors.
- Understanding DC Motors.

FEE PER PARTICIPANT (PER LOGIN)

Rs. 6000/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 240/-
Overseas Participants

Group Concession : 10% for 3 to 5 and 30% for 6 and more delegates being nominated from the same company

FACULTY

This Program will be conducted by **Mr. P. Aruna Kumar.**
Mr. P. Aruna Kumar is a Post graduate Mechanical Engineer with Machine tool specialization. He comes with over 36 years of domain expertise in Machine tool design, Assembly, Inspection, Testing and Motor and pump selection
He is former DGM, Designs and development, HMT Machine tool division, Bangalore. He has a rich experience in Gear design, Gear cutting machine design, Gear metrology and also and Motor and pump selection. He has also worked in the field of assembly and testing of machine tools.

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REGISTRATION : Prior registration with an online advance payment is must. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.