

Group F: Advantages and disadvantages of an induction motor

The advantages of induction motors are

1. They are robust and sturdy. They can operate in a wide range of industrial conditions.
2. Induction motors are cheaper in cost.
3. The construction is simple. Induction motors do not have accessories such as brushes, slip rings or commutators
4. Low Maintenance. Very little maintenance is required for induction motors.
5. It does not require any complex circuit for starting. The three phase motor is self starting while the single phase motor can be made self-starting simply by connecting a capacitor in the auxiliary winding.
6. They can be operated in hazardous environments and even under water as they do not produce sparks unlike dc motors

Disadvantage of induction motors:

7. Speed control in induction motors is difficult
8. At low loads, the power factor drops to very low values
9. Efficiency drops at low loads. This is because, the low power factor causes a higher current to be drawn. This results in higher copper losses.
1. Poor starting torque. Induction motors have notoriously low starting torque. Hence, they cannot be used for application such as traction and in lifting loads. Slip ring induction motors can be made to produce good starting torque by adding resistors to the rotor windings.

[aus: <http://www.electrotechnik.net/2015/06/what-are-advantages-and-disadvantages.html>, viewed on 04.07.2017]