Andhra Pradesh State Skill Development Corporation

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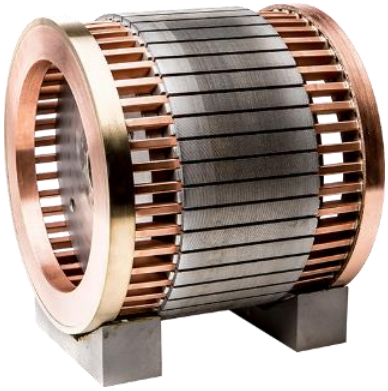
Basics of induction Motors

Different parts and construction of induction motor Part 2

Cooling Fan or Fan: The most common type of AC motor is the totally enclosed fan cooled (TEFC) motor, which is provided with an external forced cooling fan mounted on the non-drive end (NDE) of the shaft, with cooling ribs running axially along the outer surface of the motor frame.

Fan Cover: Fan cover is a guard for the fan, operating persons may accidentally touch the fan while the motor is running which is very dangerous, it is provided for the safety of the operating personnel.

Rotor end rings: The rotor conductors are permanently shorted by the copper, or aluminum rings called the end rings. To provide mechanical strength, these rotor conductors are braced to the end ring and hence form a complete closed circuit resembling like a cage and hence got its name as squirrel cage induction motor.



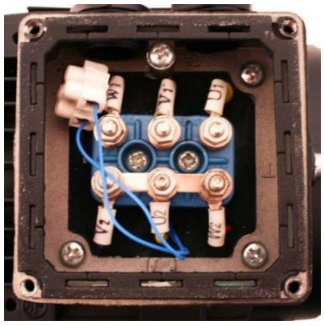
End Shield (non-driving and driving end): An end shield for mounting on a stack of laminations forming the stator of an electric motor. The end shield has an inner face facing the stack, mounting openings alienable with holes extending into the stack, and a spacer on the inner face adjacent at least one of the openings to space the inner face from the stack so that a threaded fastener extending through the mounting opening and into a hole in the stack can more readily pull material surrounding the hole upwardly to form a protuberance on the stack to engage and resist movement of the end shield relative to the stack. The motor incorporates at least one end shield of this construction. According to the method of this invention, at least one end shield is installed on the stator.

End Shields

Rotor Bars: Rotor bars are nothing but rotor conductors. But, they are wound because they are not a type of woundable conductor but a solid copper bar which is forcedly brazed into the slots of a rotor. This type of construction gives induction motor a rugged construction.

Eye Bolt: An eye bolt is a bolt with a loop at one end. They are used to firmly attach a securing eye to a structure, so that ropes or cables may then be tied to it. It is used to lift the motors in work places. Generally, an iron rope is used with a hook to lift the motors. Eye bolt is exactly placed in the weight equilibrium position of the motor.

Terminal Box: The terminal box is the house for six terminals of the induction motor. In the terminal box one can connect the motor either in star or delta. We can change the star and delta configurations using short links. The power cables from the motor are bought out to the MCC from the terminal box.



Shaft: Shaft of an induction motor is generally made out of steel. It is the power transferring part of an induction motor. Shaft transfers rotating power to mechanical power to the load.

Shaft key: A shaft key is the used to couple the motor to the mechanical load.