

**IS 7538 : 1996 - Three - Phase squirrel cage induction motors for centrifugal pumps  
for agricultural application - Specification (First Revision)**

The agricultural sector in our country relies heavily on efficient irrigation systems, and three-phase squirrel cage induction motors play a crucial role in powering centrifugal pumps used for this purpose. The Indian Standard, IS 7538:1996, specifies the requirements for these motors, ensuring they meet the needs of agricultural applications.

This standard outlines essential criteria for the design, performance, and safety of three-phase squirrel cage induction motors. Key specifications include:

- **Power Ratings:** Motors must be available in ratings ranging from 0.75 kW to 30 kW.
- **Efficiency Levels:** Minimum efficiency ratings are set at 75% for motors up to 5.5 kW and 80% for motors above 5.5 kW.
- **Permissible Temperature Rise:** The maximum allowable temperature rise is defined at 40°C above ambient temperature, ensuring safe operation.
- **Insulation Class:** Motors should comply with Class F insulation, which allows for a maximum temperature of 155°C.

To ensure operational safety and reliability, the standard sets limits on environmental protections, including ingress protection ratings of at least IP55 to guard against dust and water ingress.

This first revision of IS 7538 aligns with current industry practices and safety regulations, promoting uniformity and quality in the manufacturing of induction motors for agricultural applications.