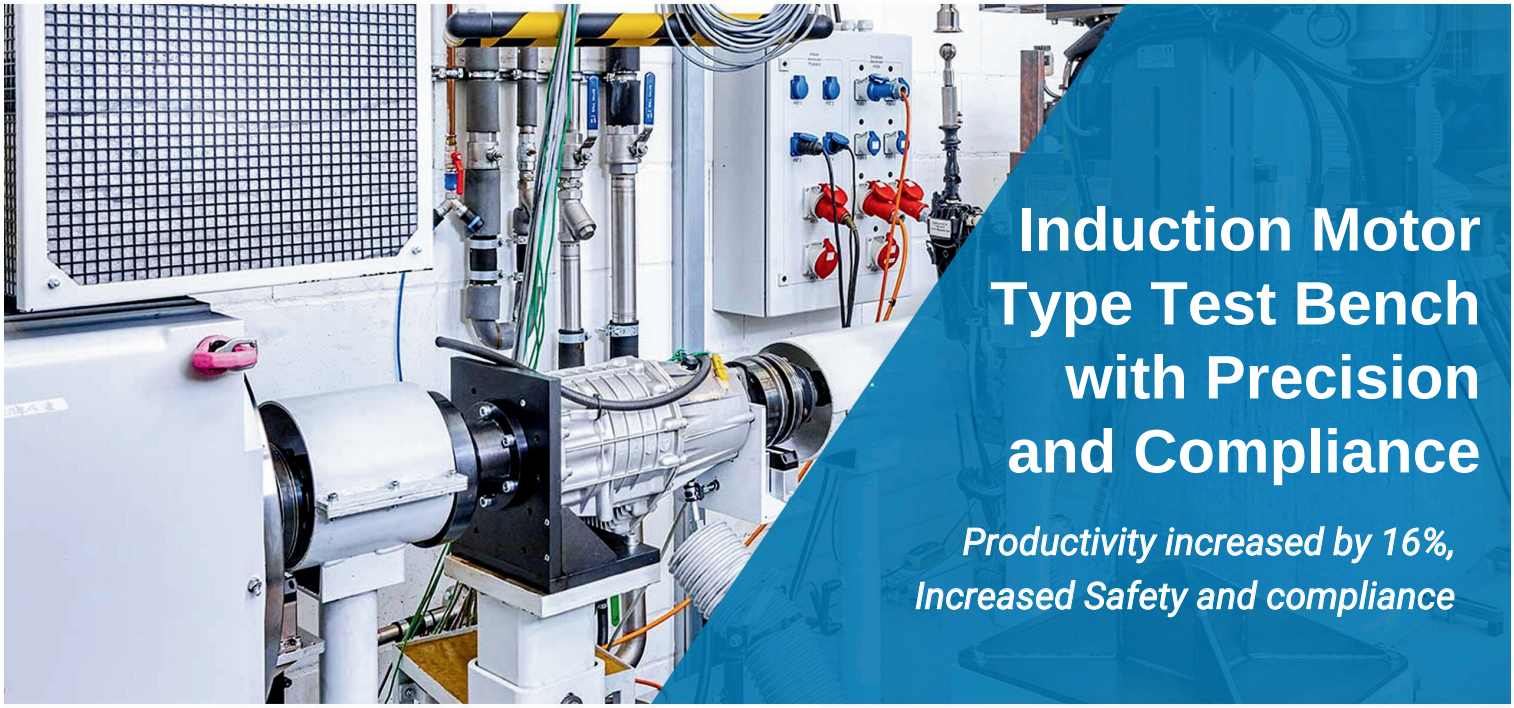
CASE STUDY

Instron Technologies
INNOVATE TO IMPROVISE



Induction Motor Type Test Bench with Precision and Compliance

Productivity increased by 16%, Increased Safety and compliance

Industry

Manufacturers of Induction Motors

Client Summary

A top-tier Indian electric motor manufacturer, committed to international quality standards. The company sought Instron Technologies' expertise to elevate their testing processes for enhanced efficiency and global compliance.

System Key Points

- **Extensive Motor Testing Capability:** Tests induction motors up to 300 KW, ensuring comprehensive assessment.
- **Compliance with IEC & IS Standards:** Performs type & routine tests in accordance with IEC 60034-1 and 2, & load performance as per IS 12615.
- **Diverse Testing Range:** Includes Insulation Resistance, High Voltage, No-Load, % Load, Locked Rotor, Temperature Rise, Efficiency, Pull-Up, Pull-Out, Winding Resistance, Overspeed, Direction of Rotation, Dielectric Strength, Vibration, Noise Level, Torque, Phase Sequence, Earth Continuity, and more.
- **Automated Testing Precision:** Integrates advanced automation for accurate testing and control, supported by SCADA, with automated report generation and flexible testing modes (auto and manual).

Challenges

- **Integrating New and Old Systems:** Merging advanced technologies with existing test bench setups, ensuring seamless operation and compatibility.
- **Enhanced Precision and Efficiency:** Achieving a fine-tuned accuracy of 2 RPM and significantly reducing the time required for test and report generation.
- **Upgraded Safety for High-Power Motors:** Implementing robust safety measures to address the risks associated with testing high-power motors, prioritizing operator safety.

Project Success Factors

- **Unmatched Precision in Testing:** Achieved exceptional accuracy in motor performance tests, ensuring high-quality outcomes.
- **Boosted Testing Efficiency:** Markedly reduced the time required for testing, streamlining the entire process while maintaining rigorous quality control.
- **Enhanced Safety Protocols:** Implemented state-of-the-art safety measures that significantly elevated the level of operational safety during testing.

Aspect	Before Implementation	After Implementation
Test Bench Configuration	Single panel, limited testing scope	Dual test benches, increased range and flexibility
Capital Expenditure & Productivity	Higher operational costs, moderate productivity	Optimized capital expenditure, significantly higher productivity
Report Generation	Manual, labor-intensive, prone to delays	Automated generation, time reduced by 95%, enhancing efficiency
Error Rate & Accuracy	Higher likelihood of errors, variable accuracy	Drastically reduced errors, remarkably increased accuracy, eliminating interference
Test Time per Motor	Prolonged due to manual intervention	Substantially improved owing to fully automated processes
Safety Measures	Substantially improved owing to fully automated processes	Advanced safety interlocks, sensors for accident prevention, markedly improved reliability
Remote Monitoring & Reporting	Limited to no remote capabilities	Comprehensive remote monitoring, real-time reporting on test bench status, scheduling, and more

Customer Feedback

The client lauded Instron Technologies for their technical expertise and dedication to meeting international standards. The project significantly enhanced their product's market competitiveness and opened avenues for global export opportunities.

About Instron Technologies

With operations in India and Canada, Instron Technologies is a leader in Process Skid Plants, Digital Factory Solutions, and Test Bench Systems. Committed to sustainability, our dynamic team develops innovative solutions that not only meet critical customer challenges but also emphasize eco-friendly practices. Serving over 150 clients in more than 10 countries, we demonstrate our dedication to innovation, operational efficiency, and environmental responsibility.

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