



Upgrade to ENERGY- EFFICIENT
MOTORS

**Save Energy,
Save Money!**



**SMARTER MOTORS. SMARTER SAVINGS.
GREENER FUTURE.**

WHAT IS MOTOR EFFICIENCY



Motor efficiency shows how a motor turns electrical energy into mechanical energy. During this process, part of the energy is lost in the motor's core, stator, rotor, as stray losses, and from friction and air resistance.

High-efficiency motors waste less energy and work better. They also save money, especially in places where motors run for 6,000 to 8,000 hours a year.

Motor efficiency is calculated with this formula:

Efficiency (η) = Mechanical Power Output (P_m) \div Electrical Power Input (P_e)

WHY SWITCH TO ENERGY-EFFICIENT MOTORS?

- ✓ **Lower Energy Bills**
*Reduce electricity costs by up to **30%***
- ✓ **Eco-Friendly**
*Lower energy consumption = **reduced carbon emissions***
- ✓ **Longer Lifespan**
*Less wear and tear, **lower maintenance costs***



CALCULATE YOUR SAVINGS AND CO₂ REDUCTION

- **Energy Savings (kWh)** = (Old Motor Power \times Old Efficiency) – (New Motor Power \times New Efficiency) \times Operating Hours
- **CO₂ Savings** = Energy Savings (kWh) \times Grid Emission Factor (kgCO₂/kWh)

Example Calculation

If an old motor consumes 15 kW at 90% efficiency, and a new motor consumes 14 kW at 95% efficiency, operating for 5,000 hours/year:



ENERGY SAVINGS

$$(15 \times 0.90) - (14 \times 0.95) \times 5,000 = 1,000 \text{ kWh/year}$$



COST SAVINGS (AT RS 5 PER kWh)

$$1,000 \text{ kWh} \times \text{Rs } 5 = \text{Rs } 5,000/\text{year}$$



CO₂ EMISSIONS REDUCTION

$$1,000 \text{ kWh} \times 0.9543 \text{ kgCO}_2/\text{kWh} = 954.3 \text{ kgCO}_2/\text{year}$$

CHOOSING THE RIGHT EFFICIENCY CLASS

(IEC 60034-30-1)

Upgrade to a higher IE class for maximum savings and sustainability:

- IE1 – Standard Efficiency
- IE2 – High Efficiency
- IE3 – Premium Efficiency (Recommended)
- IE4 – Super-Premium Efficiency (Best Choice)



Motors under 15 kW show the biggest energy efficiency differences between classes (IE1–IE4). Choosing a more efficient motor, such as IE3 or IE4, in this range can help to save energy and reduce costs.





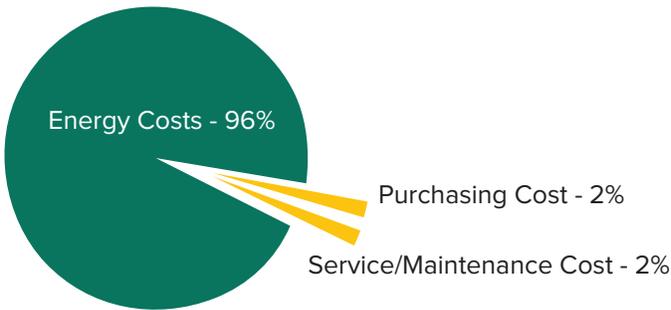
Think Beyond the Price Tag!

LIFE CYCLE COSTING

The Smarter Investment

Upfront cost is just the beginning. Life cycle costing shows how an energy-efficient motor can cut energy use, reduce maintenance and lower total ownership cost.

The pie chart shows the full life cycle cost of a motor, from the purchase price to the end of its service life. The largest portion typically comes from energy costs, representing the electricity used during operation. Since energy use makes up the majority of total costs, investing in high-efficiency motors (such as IE3 or IE4) is key to reducing long-term operating expenses.



THE FUTURE OF ENERGY EFFICIENCY

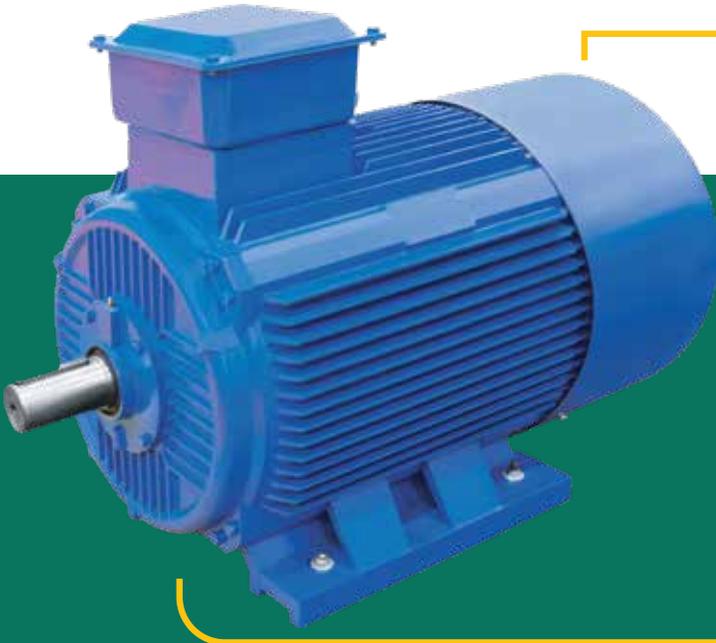
Smart Motor Technology

SMARTER MOTORS = SMARTER SAVINGS

- IoT-Enabled Sensors – Monitor vibration, temperature & energy use.
- AI-Driven Analytics – Analyse motor performance data, predict maintenance needs and energy-saving opportunities.

THE FUTURE IS HERE!

Switch to energy-efficient motors today and start saving!



Take Action Today!



AUDIT YOUR MOTORS
Identify energy guzzlers!



UPGRADE TO ENERGY-EFFICIENT MODELS
Cut electricity costs!



EMBRACE SMART TECHNOLOGY
Future-proof your business!



SMALL IMPROVEMENTS IN MOTOR EFFICIENCY
Big energy savings, Greener Future!

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