Velocity
Customer Newsletter for Industrial Systems

Bharat Bijlee

Customer Newsletter | Issue 20 | May 2025

Enabling Productivity, Precision and Energy Efficiency

75+ years of experience

5 million motors

16,000+ servo solutions

45,000 gearless machines for elevators

BB Motors: Powering Efficiency in the Sugar & Ethanol Industry

The Sugar & Ethanol industry is pivotal to India's economy, intertwining agricultural prosperity with energy sustainability. Recent government initiatives have accelerated ethanol production, aiming to reduce oil imports and promote renewable energy sources.

Government Initiatives and Ethanol Blending Targets

India has set an ambitious target to achieve a 20% ethanol blend in gasoline by 2025-26, a significant increase from the current 13-14% blend rate.

To facilitate this, the government has permitted sugar mills to produce ethanol directly from cane juice or syrup and allowed the use of B-heavy molasses, enhancing the flexibility and efficiency of ethanol production.

Impact on Sugar Production and Global Market Dynamics

The strategic diversion of sugarcane towards ethanol production is anticipated to reduce India's sugar output by 14.7% year-on-year to 27.27 million metric tons in the 2024/25 season. Consequently, India is expected to extend its sugar export ban to maintain domestic supplies and support ethanol production goals. This shift not only affects domestic markets but also influences global sugar prices, especially with Brazil, another major producer, experiencing reduced output due to drought conditions.

BB Motor Solutions for the Sugar & Ethanol Sector

In response to these industry developments, BB offers a comprehensive range of motors tailored to the specific needs of the Sugar & Ethanol sector:

1. **Safe Area Energy-Efficient Motors (IE2, IE3 & IE4)**
   - **Power Range:** 0.18 kW to 1250 kW
   - **Frame Size:** 56 to 450
   - **Applications:** Ideal for conveyors, centrifuges, pumps, and fans in sugar mills, these motors optimize energy consumption, leading to significant cost savings.
2. **Hazardous Area Flameproof Ex 'd' Motors (IE2 & IE3)**
   - **Power Range:** 0.37 kW to 315 kW
   - **Frame Size:** 80 to 355
   - **Applications:** Designed for ethanol distilleries and other explosive environments, these motors ensure safe and reliable operations in the presence of flammable vapour / gas and dust.
3. **Special Purpose Cane Unloader Motors (S5 Duty - 900 Start/Stops per Hour)**
   - **Power Range:** 11 kW to 30 kW
   - **Frame Size:** 160 to 225
   - **Applications:** Engineered for frequent start-stop operations, these motors ensure efficient and reliable cane unloading, enhancing overall productivity.

BB remains committed to delivering advanced motor solutions that enhance operational efficiency, safety, and energy savings in the Sugar & Ethanol industry. With our expertise and extensive product range, we continue to power progress in one of India's most essential sectors.

BB SynchroVERT® IE5 range - The 'Ultra' Mode of Energy Efficiency

Electric motors are estimated to consume about 65% of the electrical energy consumed by industry. Moreover, energy costs over the typical life cycle of a motor can be as high as twenty times the original capital cost of the motor.

Energy efficient motors offer an opportunity to significantly reduce energy costs and their collateral environmental effects. Organizations that have proactively invested in energy-efficient motors, have reaped benefits of better output, increased cost savings, or both.

Bharat Bijlee has been a fore runner in energy efficiency. With an innovative approach to motor manufacturing, our goal is to reduce energy consumption and waste, while promoting a sustainable solution.

Our SynchroVERT® range of IE5 motors, provides unparalleled energy savings and a host of superior performance features. Powered by patented technology, the motors deliver IE5 class efficiency levels and are a sustainable alternative to traditional induction motors. The SynchroVERT® range offers a remarkably short payback period and significant savings over IE2 and IE3 motors, along with other technologically superior features.

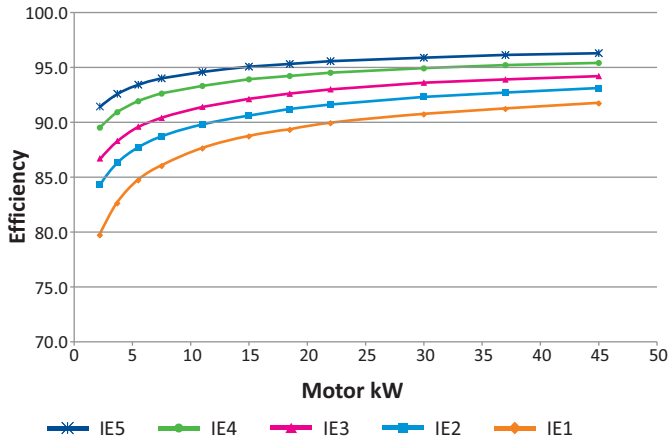
Differentiators at a glance

- Ultra Premium IE5 efficiency class as per IEC 60034-30-1
- Can operate without a VFD
- Line start capability
- Increased productivity at synchronous speed
- Significant energy cost savings and remarkably short payback periods

USP of SynchroVERT® Motors

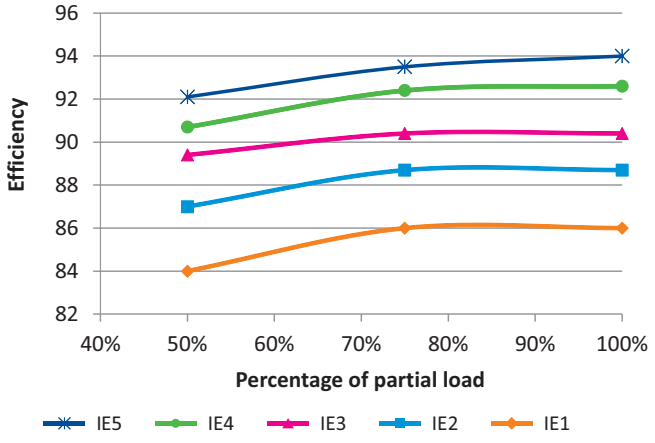
Efficiency as per IEC 60034-34-1

IE5 Efficiency higher than other classes



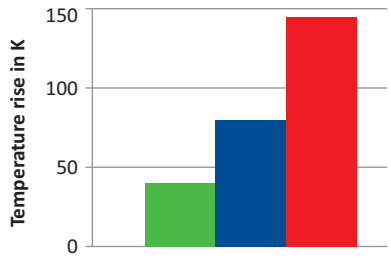
Efficiencies of IE4 & IE5 is 5 to 12% higher than IE1.

7.5kW, 4P, 132M frame efficiency comparision on partial load



Efficiencies of IE4 & IE5 at partial load are much higher than IE2 e.g. for a 3.7 kW motor from 5% at full load to 7% higher at half load.

Low temperature rise



Temperature rise classes and SynchroVERT® temperature rise

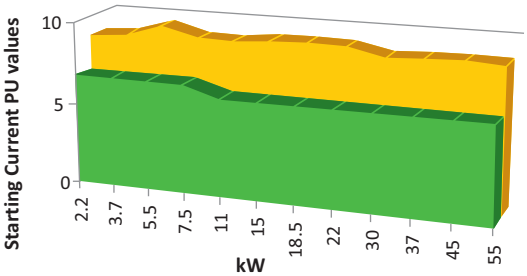
*** Temperature rise**

- IE4 & IE5 motor: 40K
- Class B: 80K
- Class F: 145K

Low temperature reduces thermal load on AHUs (in Airconditioning units), and improves overall efficiency.

* Temperature rise for 40°C Ambient.

Low starting current

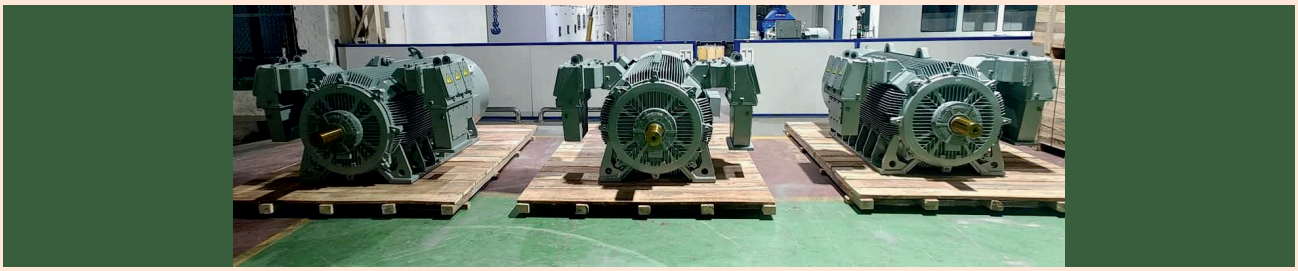


SynchroVERT® IE4 & IE5 motor Standard motor

Low starting currents compared to IE2/IE3 eliminates need of switchgear and/or cable replacement.

Our SynchroVERT® range of IE5 motors is an engineering feat for an efficient and sustainable tomorrow. To know more, write to us at enquiries.iss@bharatbijlee.com

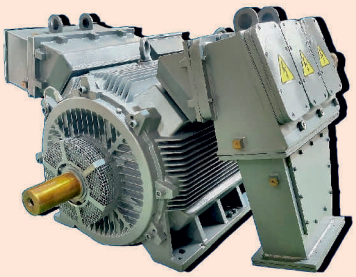
News



We delivered some of our largest MV motors, through a premier OEM, to Madhya Pradesh Jal Nigam Maryadit (MPJN). MPJN implements group water supply schemes for rural areas across the state of Madhya Pradesh.

We will install three of these 1250 kW motors at the customer's Segwal water scheme project, which aims to provide water supply to the Segwal area. We are proud to say that our high performance motors offer superior efficiency levels and a lower-than-committed temperature rise.

We were featured in two industry magazines- Modern Plastics India (issue **February 2025**) and Textile Outlook India (issue **March-April 2025**). The two articles highlight how our SynchroTorq® range of PM servo motors, coupled with KEB F6 servo drives, is driving transformation across both Plastic and Textile sectors, offering high-performance solutions that meet the evolving market demands.



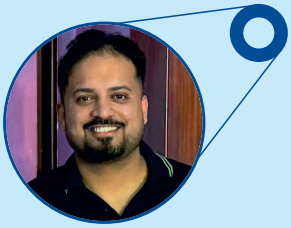
We recently launched our new 315 frame DCCA medium voltage motor range (690V, 3.3kV, and 6.6kV) with power ratings from 110kW to 300kW. This new range is optimised for superior performance and significant savings over the equivalent 355 frame motor.

Over the past few months, we conducted a series of workshops across Pune, Ludhiana, Bengaluru and Chennai, in collaboration with Confederation of Indian Industry (CII).

Especially targeted towards the forging industry, these workshops enabled us to spread awareness around our energy-saving servo solutions with help of case studies.

We co-sponsored a meet organised by the Kerala Elevator Manufacturers Association (KEMA), focusing on sharing technical expertise and insights with the 80 installation and aftersales service professionals from the elevator industry who were present at the event. Our team led by R Rajaraman, shared valuable insights on the technical features of our GreenStar® gearless elevator machine and other key elevator components.

Partner Spotlight



Rohan Saidha
Chief Executive Officer
KSR Engineers
Dera Bassi, Punjab

Dera Bassi-based KSR Engineers, has been our authorized dealer since 2022. Founded in 2015 by the father-son duo R K Saidha and Rohan Saidha, the company has achieved a remarkable position in the industry with its comprehensive technical and service support.

KSR Engineers are known suppliers of Automation products such as Gear Motors, Gear Boxes, Electric Motors, Variable Frequency Drives, Bearings and Conveyor components. Leveraging their extensive knowledge and experience in the field of Industrial Automation, the company has devised cost effective and quality solutions to meet the evolving market demands. What sets them apart from competition is their technical competence, coupled with superior products and dedication to ongoing improvement.

The partnership with BB enabled them to deal in Gear Boxes across industries in regions such as Baddi in Himachal Pradesh, along with Chandigarh and GT Road up to Ambala. They are our strong partner in the Chandigarh region and through BB's support, plan to grow to Rs 10 crores in the next two years.

With BB's support, KSR Engineers is on a mission to provide operational expertise and trade safe, effective and high-quality products and service to customers. They endeavour to deliver these premium-value offerings in a timely, effective and competitive manner that keeps their brand at the forefront.

Velocity Quiz # 5

Answer few simple questions and stand a chance to win Amazon vouchers worth Rs 1000. Send in your entries to corp.comm@bharatbijlee.com latest by 31st May 2025. Winners' names will be published in the next issue of Velocity.

1. The main function of a fuse is to.....
a. Increase power
b. Protect the circuit
c. Regulate temperature
d. Convert voltage

2. What is the S.I. unit of power?
a. Watt
b. Volt
c. Ohm
d. Joules

3. Our..... are designed for ethanol distilleries and other explosive environments.
a. Special Purpose Cane Unloader Motors
b. Safe Area Energy-Efficient Motors
c. Hazardous Area Flameproof Ex 'd' Motors
d. Traction Motors

4. ..... invented the first safe passenger elevator.
a. Werner von Siemens
b. Elisha Otis
c. Thomas Alva Edison
d. Nikola Tesla

5. Three units of our..... motors were installed at our customer Madhya Pradesh Jal Nigam Maryadit's (MPJN) water scheme project in Segwal.
a. 1755kW
b. 1260kW
c. 1750kW
d. 1250kW

*This quiz is not open to Bharat Bijlee employees and family members/relatives of the employees.

Bharat Bijlee
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