

Engineering the FUTURE OF REFRIGERATORS



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Refrigerators are no longer silent metal boxes; they're intelligent, sustainable hubs at the heart of smart homes. AI, energy-efficient engineering, and connected features are transforming cooling technology worldwide. This revolution extends beyond Europe and East Asia, as now Bangladesh is emerging with homegrown manufacturers and advanced features that compete globally.

SMART FEATURES DRIVE MARKET EVOLUTION

Modern appliances combine AI, connectivity, and energy-efficient engineering to improve food safety, cut electricity use, and offer remote monitoring and predictive maintenance.

1. Intelligent Inverter Technology

Variable-speed compressors replace crude on/off cycles, adjusting cooling to interior load and ambient conditions. The result is better temperature stability, quieter operation, and significant energy savings compared with older compressors.

2. Smart IoT and Connectivity

Internet-connected fridges now offer apps, internal cameras, and remote controls that help users track contents, set modes, and avoid wasted

purchases. Such connectivity also enables over-the-air updates and diagnostic alerts.

3. Advanced Humidity and Temperature Control Triple cooling and separate evaporators create dedicated zones that prevent odour transfer and extend produce life by maintaining optimal humidity and temperature per compartment.

4. Eco-Friendly Refrigerants

Manufacturers are abandoning high-global-warming gases in favour of low-GWP refrigerants like R600a, balancing performance with regulatory compliance in markets such as Europe and North America.

LOCAL BRANDS LEAD THE GLOBAL EXPANSION

Bangladeshi manufacturers have moved from import dependence to competitive exporting. Walton, supported by local R&D and modern facilities, now sells to dozens of countries, while companies such as Electro Mart, Vision, Jamuna and Singer are investing in design, inverter tech, and scale to capture regional demand.

TOP INNOVATIONS REVOLUTIONISING FOOD PRESERVATION

The technological muscle being flexed by modern manufacturers is truly impressive. Beyond the core cooling functions, several specialised features are becoming standard for anyone seeking a high-end experience.

1. Nano Health Care Technology

Ionic-cluster sterilisation reduces bacteria and fungi on food surfaces, enhancing safety for health-conscious buyers.

2. Inverter Turbo Cooling

Turbo modes quickly bring compartments to target temperatures—useful in hot climates or for rapid freezing before events.

3. UVnano Water Dispensing

Integrated UV sanitation keeps dispenser nozzles sterile by periodic ultraviolet exposure, improving drinking-water safety.

Modern refrigerators have evolved into quieter, greener, and smarter household hubs. Through inverter compressors, targeted preservation zones, eco refrigerants, and connectivity, they reduce waste, save energy, and elevate convenience—signalling a new era in domestic appliance design.



SALIM ULLAH SALIM

Director, Marketing
Jamuna Electronics
& Automobiles Ltd.



Innovation is crucial in consumer electronics. Their refrigerators achieve up to 70% energy savings while maintaining optimal food quality. A dedicated R&D team works on technological enhancements and product quality improvements.

From smart features to energy efficiency:

JAMUNA ELECTRONICS

Over the years, Jamuna Refrigerators have established a strong and trusted position among consumers. Through technological excellence, skilled manpower, high-quality raw materials, and production tailored to customer needs. They are offering a diverse range of sizes, designs, and price points to meet the local demands.

A high quality refrigerator does more than preserve food, it brings convenience and comfort to daily life. It is designed considering affordable prices, superior quality, durability, and products designed for local climate conditions. Beyond regular refrigerators, their range includes advanced intelligent inverter technology models such as smart double-door, T-door, cross-door refrigerators, ice cream freezers, and beverage coolers.

INNOVATION DRIVES SMARTER LIVING

Innovation is crucial in consumer electronics. Their tagline is 'Innovation for Smarter Life.' Their refrigerators achieve up to 70% energy savings while maintaining optimal food quality. A dedicated R&D team works on technological enhancements and product quality improvements. In today's fast-paced life, people prefer appliances that make household chores quicker and easier. Jamuna Electronics' product line includes glass-

door refrigerator models. Their smart refrigerator designs have received positive feedback from consumers.

ADVANCED FEATURES FOR MAXIMUM PERFORMANCE

Jamuna Refrigerators are equipped with Ultra-Micro Foaming Insulation Technology, which maintains precise internal temperatures and keeps food fresh naturally. Key features include:

- » Minimum temperature: -28°C with maximum energy savings
- » 100% food-grade materials, silicone gel-free
- » Eco-friendly R290 & R600a refrigerant
- » Anti-bacterial door gasket
- » 10-12 years compressor warranty
- » Tempered glass shelves with built-in stabilisers
- » 85mm uniform foaming insulation
- » 5-way faster freezing technology

Jamuna refrigerators offers modern smart features such as mobile app notifications (door open alerts), built-in Bluetooth music system, smart Wi-Fi control, digital touch display, temperature control via mobile apps, and intelligent inverter technology. Jamuna refrigerators come with a 10-year warranty, and their nationwide service centres provide easy post-purchase support.

Local Production Fuels Cooling Growth: SINGER



With refrigerator penetration at around 60 percent of households, the category still holds significant room for expansion across urban and semi-urban Bangladesh.

MHM FAIROZ

Managing Director & CEO
Singer Bangladesh Limited



Singer Bangladesh's refrigerator portfolio reflects evolving consumer expectations shaped by household size, climate realities, and growing emphasis on energy efficiency. According to MHM Faiz, Managing Director & CEO of Singer Bangladesh Limited, the category is undergoing a transition driven by product innovation alongside changing perceptions of reliability, local manufacturing, and long-term value. He notes the industry has reached a relatively mature stage and is now largely locally dominated, with more than 90 percent of refrigerators produced within Bangladesh and annual demand approaching two million units across capacities ranging from roughly 100 to 700 litres.

Within Singer's lineup, the strongest demand sits in the mid-capacity segment, typically between 200 and 300 litres, aligned with medium to large households seeking a balance between storage, affordability, and electricity consumption. These models support everyday grocery habits while remaining suitable for apartment living, where kitchen space is often limited.

Product engineering has been shaped by local operating conditions, including voltage fluctuations, high temperatures, humidity, and dense urban

housing. Singer refrigerators incorporate low-voltage-compatible compressors capable of maintaining cooling performance without external stabilisers, alongside cooling systems designed for consistent operation in warmer climates. Moisture-controlled storage and efficient internal layouts further support freshness while addressing urban space constraints.

Energy efficiency remains a defining purchase driver as electricity costs influence household budgets. The use of R600a refrigerant supports faster heat exchange and improved cooling efficiency while consuming less electricity than many older refrigerants. It also has a very low global warming potential and zero ozone depletion impact, making it a more environmentally responsible option. Combined with inverter-based compressors, humidity-balanced crispers, antibacterial door seals, and odour-management features, this contributes to lower energy consumption while supporting hygiene and food preservation, factors increasingly valued beyond basic cooling functionality.

Singer's broader positioning has also evolved during 2024-2025, shifting from a legacy

retailer to a locally manufacturing, globally aligned brand under the Beko ecosystem. Central to this transition is a \$78 million manufacturing facility enabling local production of more than 90 percent of products, supported by immersive concept retail formats and expanded after-sales capabilities. These initiatives, alongside sustained visibility efforts and reported double-digit revenue growth, have reinforced consumer confidence and market presence.

With refrigerator penetration reaching an estimated 60 percent of households nationwide, the category continues to offer expansion potential across emerging urban and semi-urban segments. Looking ahead, Singer positions its refrigerators as a catalyst for broader appliance adoption by combining locally enabled affordability with globally benchmarked cooling technologies and service access.

Industry observers note Bangladesh's ambition to become a regional appliance hub will depend on deeper local component ecosystems, supportive investment policies, infrastructure development, skilled workforce growth, and streamlined export incentives. These factors are expected to shape long-term competitiveness.

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