Incorporated in the year 1996, JBM Auto Ltd. is the flagship company of JBM Group. The company has diversified into bus manufacturing with an aim to become a globally benchmarked producer of modern intra-city buses.

The company in the year 2014 launched the intra-city CNG variant of CITYLIFE buses, completely designed and engineered in-house. The company's bus manufacturing unit at Kosi has an installed capacity of 2000 buses per annum. The company specializes in the manufacturing of high quality buses, which are built with cutting edge technology. JBM buses take pride in providing the highest levels of comfort and safety with latest features. The company has now launched India's first 100% electric bus – ECOLIFE with best in class modern features. JBM Auto Ltd. is listed on Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) of India.
Established in the year 1983, JBM Group today stands for excellence in the global auto component industry. As a $1.35 billion Group with 35 manufacturing plants and 4 Engineering & Design centres, the group operates from 18 locations globally with highly skilled and dedicated workforce of 20,000 people.

JBM Group is a dynamic and progressive organization that provides customers with value added products, services and innovative solutions. The Group has a diversified portfolio to serve in the field of automotive, engineering & design services, renewable energy, railways and bus manufacturing domains and has an infrastructure of 35 manufacturing plants, 4 engineering & design centres across 18 locations globally. With turnover of USD 1.35 billion, JBM Group has broadened its horizons by focusing on quality delivery, solutions approach, product development processes, flexible manufacturing systems and contract manufacturing. JBM Group is primarily a tier- 1 supplier to the automotive OEM industry and caters services to esteemed clients that include Ashok Leyland, Bajaj Auto Ltd, Fiat, Ford, General Motors Corporation, Honda, Hero, JCB, Mahindra, Maruti Suzuki, Renault, Nissan, TATA, Toyota, TVS, Volvo-Eicher, Volkswagen and many more. The Group has alliances with more than 20 renowned companies globally and the associations include Arcelor Mittal, Cornaglia, Dassault Systems, JFE Steel Corporation, Magnetto (CLN Group), Ogihara, Sumitomo and many more. JBM Group is a proud member of ACMA, AIMA, CII, FICCI, IEEE, IGCC and PHDCCI.
JBM Auto, a flagship company of the vast and diversified JBM Group has presented another symbol of its futuristic product, CITYLIFE buses.

The buses are designed keeping in mind the commuters Comfort & Safety as top priority. The buses are built with ultra low floor design with entry height at 340 mm creating very easy boarding and alighting. CITYLIFE buses have Uni-Floor, enabling comfortable movement of commuters within the saloon and also creating more space to stand. An independent front suspension coupled with a double Pneumatic Spring significantly enhances the comfort by creating an ultimate experience of jerk-free travel on city roads. The cantilever mounted seats provides dirt free floor and also reduces the changes of hurting the commuter’s foot.

The bus has one of the most modern braking systems designed with German technology which provides safest stopping in shortest distances. The glass panels are wide and clear to give the commuters its best experience for site seeing as the bus moves around the city. The bus is also equipped with Projection Lamps and LED Lights to give best vision enhancing safe travel. The bus is available in two variants, viz Diesel & CNG.

JBM Auto with its years of experience has been delivering technologically advanced products. The CITYLIFE range of buses is one of its kind ultra modern transport solution, surely adding safety and comfort to the commuters.
Global Best Technology

- CITYLIFE buses are built using world class aggregates from United States and Europe's largest aggregate manufactures
- Steering System, Front Axle and Inverted Ported Axle from Germany
- Technically advanced Engine from India
- Globally proven Air Conditioner
- Robust Automatic Transmission

European Features

- True Ultra Low Floor Bus with no step floor in the passenger saloon
- Complete vehicle design based on 3D simulation of all aspects of design and configuration including Drive Ergonomics, Passenger Movement and Seating
- Fully modeled on 3D CAD System with 100% Engineering Analysis on CAE, with state-of-the-art validation and testing
- AC airflow and Engine Room Analysis carried out with elaborate CFD
- Configured at extremely high panoramic visibility from external and internal perspective, resulting in best class view both from outside and inside
- All seats and passenger area have ample Head-Room
### UNI-FLOOR

**Low floor**

- **Feature:** India’s first True Low floor bus
- **Benefit:** Comfort

Inverted Portal Axle technology results in more flat area in rear, resulting in more standing capacity. Stair-less rear part adds to comfortable passenger movement in saloon, extra headroom for seated as well as standing passengers.

### INTEGRA-DURALIFE

**Monocoque Structure**

- **Feature:** Monocoque frame with tubular structure
- **Benefit:** Safety and Durability

CITYLIFE deploys a unique Monocoque frame, designed for extreme rigidity and torsion stiffness. The structure blends latest light-weighting concepts to provide ultimate strength and lightest weight. Designed for high safety norms as per European Standards for frontal collision, roll over and side impact. Coated internally and externally for a long corrosion free life.

### SAFE-STOP

**EBS & ABS for All Disc-brakes**

- **Feature:** Safe and reliable braking
- **Benefit:** Safety

All around vented disc braking system designed with German technology provides surest safety stopping in shortest distances. Equipped with EBS & ABS the SAFE-STOP brakes provide life saving stopping in all weather and driving conditions. Retarder System which is in-built in the transmission provides additional braking on down slope of flyovers and gradients.
**PRO-GREEN**

*Green Safe*

**Feature:** Fueling Green Energy  
**Benefit:** Safety

The CNG System is designed for easy inspection of Joints & Valves from the side of the bus and is equipped with auto shut off valves for added safety. Only 4 Cylinders are required, reducing the number of joints and improving reliability. The CNG cylinders are carried on a rack for easy inspection and interchangeability. The Engine Room is equipped with Fire Detection and Fire Suppression system [optional].

**BRITE-LITE**

*Light*

**Feature:** Contemporary and aesthetic lighting  
**Benefit:** Safety, comfort and aesthetics

The front of the bus is equipped with State-of-the-art lighting system in the most modern Aero-Wing design popular with luxury cars. The Projection Lamps and LED lights provide highest visibility and durability as per European norms. The Saloon is equipped with diffused LED lights to provide diffused white lights.

**COM-MAT**

*GFRP Parts*

**Feature:** Contemporary material  
**Benefit:** Comfort

High strength glass fibers composites parts especially for the front end, rear end and the roof. FRP roof sheets absorbs noise (such as rain), provides thermal insulation and is totally leak proof being one-piece.
**EZ-CLEAN**

**Clean Floor**

**Feature:** Ease of cleaning  
**Benefit:** Safety, comfort and hygiene

Seats and stanchions are not mounted on the floor. Therefore, there are no parts to hurt commuters’ toes. There are no corners to collect dirt. EZ-Clean floor is cleanable and washable using basic methods practiced at Indian Bus Depots.

**TECH-RIDE**

**IFS with ECAS**

**Feature:** Jerk-free ride over uneven terrain  
**Benefit:** Comfort

The suspension of CITYLIFE provides the ultimate passenger comfort, akin to limousines. At the front, there is the Independent Front Suspension and at the rear a Double Pneumatic Spring coupled with Anti Roll Bar. The entire suspension is controlled by ECAS in CITYLIFE-Dsl. The result is Jerk-Free smooth ride over the roughest city roads with potholes in India.

**EZ-CARE**

**Easy Maintenance**

**Feature:** Designed to minimize physical efforts and discomfort and maximize efficiency  
**Benefit:** Technician Comfort

Ease of real time maintenance is incorporated in designing stage resulting in intelligent packaging allowing easy access to all maintenance components, smart swing battery tray and side access to CNG cylinders. It has secure and ergonomic access of electronic devices. All openable bottom panels for underbody access from side. On Board Diagnostics equips the driver/technician to know any malfunction that occurs within the bus.
MAX-KOOL
Air Conditioning
Feature: Keeping you cool
Benefit: Comfort
Globally proven customized Air Conditioner for quick cooling in extreme temperatures. The air-flow system is designed using CFD to provide well distributed cold air flow to all passengers. The Front Box provides comfortable conditions for the driver and also demists the wind screen.

PRO-DRIVE
Proven Driveline
Feature: Well synchronized proven driveline
Benefit: Performance
CITYLIFE has electronically controlled state-of-the-art engine and well matched Automatic Transmission with Retarder. It also has Inverted Portal Axle with higher rear axle ratio resulting in higher wheel torque.

TRANS-VU
Wide & Clear Glasses
Feature: Trans View
Benefit: Safety and spacious feel
The vehicle is configured at extremely high panoramic visibility from outside and inside. Clear and broader lateral glasses facilitate clear view internally and externally, till the end of the bus. It also has asymmetric front windshield for better maneuverability.
## Engine & Other Major Aggregates

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>Cummins ISB 5.9 G 230</th>
<th>Cummins ISBe 285 40</th>
<th>Cummins ISBe 245 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Level</td>
<td>BS IV</td>
<td>BS4</td>
<td>BS4</td>
</tr>
<tr>
<td>Horse Power</td>
<td>230 hp @ 2800 RPM</td>
<td>281 hp @ 2300 RPM</td>
<td>245 hp @ 2300 RPM</td>
</tr>
<tr>
<td>Torque</td>
<td>478 Nm @ 1600 RPM</td>
<td>1035 Nm @1200-1700 RPM</td>
<td>1020 Nm @ 1200-1700 RPM</td>
</tr>
<tr>
<td>Cylinder</td>
<td>6 cylinders, vertical in-line, turbo charged and inter cooled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Displacement</td>
<td>5883 cc</td>
<td>6692 cc</td>
<td>6692 cc</td>
</tr>
<tr>
<td>Fuel</td>
<td>CNG</td>
<td>Diesel</td>
<td>Diesel</td>
</tr>
<tr>
<td>CNG Cylinders/fuel tank Capacity</td>
<td>720 ltr</td>
<td>265 liters</td>
<td>265 liters</td>
</tr>
<tr>
<td>Transmission</td>
<td>Automatic Transmission with inbuilt retarder</td>
<td>All wheels disk brakes, dual circuit, full air system with EBS and ABS</td>
<td>All wheels disk brakes, dual circuit, full air system with EBS and ABS</td>
</tr>
<tr>
<td>Brakes</td>
<td>All wheels disk brakes, dual circuit, full air system with ABS</td>
<td>All wheels disk brakes, dual circuit, full air system with EBS and ABS</td>
<td>All wheels disk brakes, dual circuit, full air system with EBS and ABS</td>
</tr>
<tr>
<td>Suspension Type</td>
<td>TECH-RIDE Air Suspension</td>
<td>TECH-RIDE Electronically controlled Air Suspension</td>
<td>TECH-RIDE Electronically controlled Air Suspension</td>
</tr>
</tbody>
</table>

## Suspension & Tyres

**Suspension Type:** ECAS (Electronically Controlled Air Suspension)

**Suspension Axle (Front):** Independent Front Suspension, 2 Air Bellows, 2 Telescopic Shock Absorbers

**Suspension Axle (Rear):** Inverted Portal Axle with Air Suspension, 4 Air Bellows, 4 Telescopic Shock Absorbers & Stabilizer Bar

**Kneeling Facility:** Yes

**Tyres:** 295/80R 22.5-16PR

## Dimensions (mm)

- **Total Length:** 12,000
- **Width:** 2,576
- **Max Height (with AC):** 3,380 (CNG), 3,042 (Dsl)
- **Wheelbase:** 6,320
- **Overhang (Front):** 2560
- **Overhang (Rear):** 3120
- **Entry Step Height:** 340
- **Axle Loads FAW:** 6000 kg
- **RAW:** 10200 kg
- **GVW:** 16200 kg

## Electrical System

**Type:** Multiplex, 24V

**Battery:** 2x12V, 200Ah

**Alternators:** 1x150A, 1x90A (CNG), 1x150A, 2x90A (Dsl)

## Other System

**CNG Gas Leak Detection System:** is integrated with multiplexing

**Fire Suppression System:** is available as an option

**ITS & PIS:** CITYLIFE ‘Intelligent Transport System’ & ‘Passenger Information System’ are compliant to UBS-2 guidelines issued by Ministry of Urban Development, Govt. of India.

**Doors/Emergency Exits**

- **Passenger Doors:** 2, 1 each at the front and the middle
- **Door Type:** Inswing, Dual Wing

**Disable Friendly:** Wheelchair Ramp (Manual)
Electric Revolution:
JBM Solaris Ecolife 9m Electric
Introducing India’s First 100% Electric Bus

Exceptionally quiet, emission-free, distinguished by its modern design and guaranteeing low operation costs – discover the benefits of the JBM Solaris ECOLIFE 9 Electric, India’s first 100% Electric bus. Crafted to 9 metres in length, ECOLIFE 9 Electric is a fully low-floor battery powered green vehicle with state-of-the-art electric drive technology that ensures hassle free and comfortable commute for the passengers. ECOLIFE 9 Electric stands out distinctly by virtue of its attractive exterior and interior styling coupled with a series of innovative and cutting-edge design solutions.

Offering a completely flexible solution, the ECOLIFE 9 Electric offers the ability to adjust the charging system of the bus to an operator’s or city’s infrastructure. ECOLIFE 9 Electric fits in perfectly with any urban environment as it traverses narrow streets swiftly and silently, and keeps the air fresh and clean in crowded city centres. The different battery sizes and other customisations offered by JBM Solaris enable the bus’s range to be tailored to the requirements of virtually any route. This further optimises the purchase and operating cost of the vehicle and the number of people that can be carried.

Tailored to requirements
The configuration of the drive technology of ECOLIFE 9 Electric, can be exactly matched to its operators’ requirements. This is made possible by the flexible...
design of the system’s components, which allows them to be selected and scaled according to the demands of the routes the buses will be used on. Based on a route profile supplied by the operator, our engineers determine the right choice of technology, power rating, size and capacity of batteries as well as different charging solutions can all be specified. The result is ECOLIFE 9 Electric that is perfectly suited to the expectations of its operator, tailored to its route profile and offers huge operational possibilities. Additionally, the careful selection of components and parameters optimises the vehicle by cutting out on surplus features not required by a particular operator.

Unlimited operational possibilities
At the heart of the drive system of ECOLIFE 9 Electric are a four-pole, asynchronous traction motor and lithium batteries. Their power and capacity can be adapted to the route on which the bus is to be used. The batteries are not only the source of energy for the motor, but they also feed all auxiliary systems, including air-conditioning and heating, steering pump and the electrically-powered doors. Components conventionally fed by compressors powered by the diesel engine have been replaced with electric counterparts. These innovations, along with the choice of charging solutions, enable an operational performance that is equal to that of conventionally powered buses, but at lower operating costs. Additionally, ECOLIFE 9 Electric addresses the environmental issues and significantly contributes towards maintaining air quality and better living standards in our cities.

Charging systems and infrastructure
JBM Solaris offers two different charging solutions for ECOLIFE 9 Electric. These allow the bus to be adapted to the infrastructure that operators have or may install. The first solution is a plug-in connection wherein energy can be supplied through external chargers. Secondly, charging of the vehicle can also be done through on-board pantograph that is installed on the roof of the bus.
Wide array of innovative solutions

JBM Solaris brings in an automatic system for vehicle charging that does not require drivers to leave their cab. This is a roof-mounted solution, which automatically connects to charging stations at the end of the line or at bus stops. After a short but powerful recharge, the batteries can be sufficiently topped up for the bus to continue to the next charging point, thus enabling all-day operation without range restrictions.

Comfortable work for drivers

The parameters and solutions adopted in the construction of ECOLIFE 9 Electric are a combination of state-of-the-art technology and design that pay particular attention to the environment. The bus is fitted with energy-saving LED lights. This technology has been used both for exterior and interior lighting. In ECOLIFE 9 Electric, drivers have a dashboard equipped with touch-screen panels at their disposal, which in addition to the basic parameters, display information about the state of the electric system and the battery charge level. Integrated into the touch screens are controls for the heating and other vehicle functions. This intuitive and easy-to-use system allows drivers to concentrate on driving without distractions.

Built on experience:

JBM Solaris Ecolife 12m Electric

JBM Solaris electric buses are also available in a fully low-floor version with a length of 12 meters. Its innovative electric drive system guarantees lower operating costs. ECOLIFE 12 electric offers maximum flexibility in areas such as battery selection, charging systems and other components, making it a true breakthrough in electric mobility.

By using ECOLIFE 12 electric, the city bus services become a guaranteed zero-emission mode of transport that offers unprecedented levels of comfort for passengers and keeps the air in our cities clean. This electric bus makes the green future become reality.
## Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>ECOLIFE 9 mtr Electric</th>
<th>ECOLIFE 12 mtr Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Driveline</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>80-160 KW</td>
<td></td>
</tr>
<tr>
<td><strong>Emission Level</strong></td>
<td>Zero</td>
<td>Zero</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithium (type and operational voltage depending on specification)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational Performance (intertinked with battery power and charging system)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Charging System</strong></td>
<td>Plug-in</td>
<td></td>
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<tr>
<td>Pantograph</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front Axle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Suspension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rigid Suspension</td>
<td></td>
<td></td>
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<tr>
<td><strong>Drive Axle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banjo Axle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portal Axle with integrated electric motors</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brakes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“EBS Electronic [dual-circuit] braking system incorporating the anti-blocking system (ABS) and the traction control system (ASR), parking [hand] brake with emergency release function from the driver’s seat, bus stop brake”</td>
<td></td>
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<tr>
<td>or All wheels disk brakes, dual circuit, full air system with EBS and ABS with EBD</td>
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<td></td>
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<tr>
<td><strong>Kneeling system</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tyres</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>295/80 R 22.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>285/70 R 19.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions (in mm)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Length</td>
<td>9000</td>
<td>12000</td>
</tr>
<tr>
<td>Width</td>
<td>2400</td>
<td>2550</td>
</tr>
<tr>
<td>Overall Height</td>
<td>3250</td>
<td>3354</td>
</tr>
<tr>
<td>Wheelbase</td>
<td>4430</td>
<td>6320</td>
</tr>
<tr>
<td>Front Overhang</td>
<td>2080</td>
<td>2560</td>
</tr>
<tr>
<td>Rear Overhang</td>
<td>2490</td>
<td>3120</td>
</tr>
<tr>
<td>Entry Step Height</td>
<td>340</td>
<td>340</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrosion resistant monocoque structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Side Panels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Door arrangement / Emergency Exits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger doors - 1 in the front &amp; 1 in the middle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of doors - Inswing type on both doors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelchair Ramp - Manually operated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ECOLIFE 9 mtr electric

![ECOLIFE 9 mtr electric diagram](image)

### ECOLIFE 12 mtr electric

![ECOLIFE 12 mtr electric diagram](image)
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