



f1

SCANIA FENCER

FOR URBAN TRANSPORT OPERATIONS



SCANIA



DESIGNED FOR SUSTAINABLE AND EFFICIENT MOBILITY

Based on more than a century of engineering experience, our new generation of buses has been developed to meet the demands of today's and tomorrow's cities. Energy efficient and available in a wide range of powertrains, it offers the latest technology in everything from safety systems to reduced emission and noise levels. And through excellent uptime, fuel economy and the possibility of high passenger capacity, the Scania Fencer buses allows sustainable mobility to go hand-in-hand with operating economy.

For a better city environment

Having the right vehicle for the operation, and using it efficiently, is the best way to minimise environmental impact. Scania offers engines running on all commercially viable renewable fuels – biodiesel/FAME, HVO and biogas powertrains, in order to meet the requirements of all urban operations. Through high quality vehicles and innovative technical solutions, maintenance, and a range of driver services, we address fuel efficiency from all angles, helping operators to reduce emissions and fuel costs.

To create a positive passenger experience, our buses have independent front suspension that makes the ride more comfortable. Design materials used in the buses create a bright and welcoming passenger environment.

To help prevent accidents and create a safer city environment, our buses have built-in state-of-the-art safety systems and features. These help the driver by increasing their awareness of other road users, and even help to control the vehicle when required.

Energy efficiency lowers operating cost

Public transport operators know the importance of keeping operating costs to a minimum, and fuel consumption is one of the main contributors to cost. An energy efficient powertrain can therefore offer significant savings in fuel. We develop and offer highly energy efficient powertrains. Compared to previous models, our new generation of buses can potentially save up to 9% in fuel and emissions, without compromising on performance. This is achieved through a number of factors, with the most significant savings coming from improved engine and gearbox efficiency. Beyond the powertrain, driving style has a major impact on fuel consumption. The driveability of our vehicles and our driver assistance systems, as well as our driver services, can potentially contribute to further fuel savings of up to 10%.

Powertrains

The Scania Fencer f1 offers a wide range of energy efficient and reliable powertrains optimised for inner-city and suburban traffic.

Combustion, Euro 5	Output	Torque	Emissions control	Fuel options
9-litre	280 hp (206 kW) at 1900 r/min	1400 Nm (1000-1400 r/min)	SCR	Biodiesel, HVO, diesel
9-litre	320 hp (235 kW) at 1900 r/min	1600 Nm (1050-1400 r/min)	SCR	Biodiesel, HVO, diesel
9-litre	360 hp (265 kW) at 1900 r/min	1700 Nm (1050-1475 r/min)	SCR	Biodiesel, HVO, diesel

Fuel capacity (usable volumes): 140–360 litres (2-axle) for high floor 140–275 litres, 140–360 litres (3-axle), 180–360 litres (low articulation), 180–560 litres (high articulation)

Combustion, Euro 6	Output	Torque	Emissions control	Fuel options
9-litre	280 hp (206 kW) at 1900 r/min	1350 Nm (1000-1400 r/min)	EGR	Biogas, natural gas
9-litre	340 hp (250 kW) at 1900 r/min	1600 Nm (1000-1400 r/min)	EGR	Biogas, natural gas

Fuel capacity: 1260–1875 litres

Gearboxes

6-speed fully automatic gearbox (ZF EcoLife 2)

12-speed manual gearbox with Scania Opticruise and retarder.

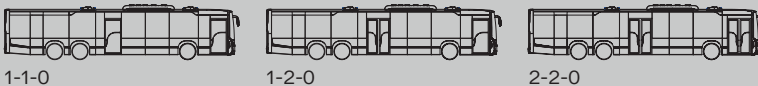
Axles, doors, lengths

The Scania Fencer f1 is available in different versions and several options for door configurations to be able to meet the different demands of passenger capacity and flow.

2-axles, 10.8 m, 12.0 m, 12.5 m, 13.0 m



3-axles, 13.0 m, 15.0 m



3-axles, 18.0 m (articulated)



Heights

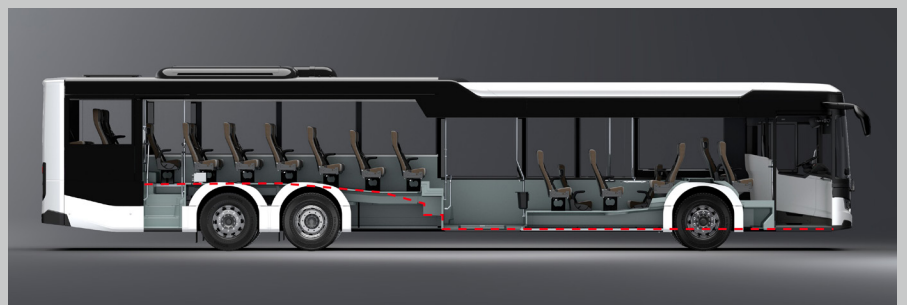
The height of the Scania Fencer f1 is dependent on the choice of propulsion, with gas tanks positioned on the roof.

3.2 m (diesel)

3.3 m (gas)

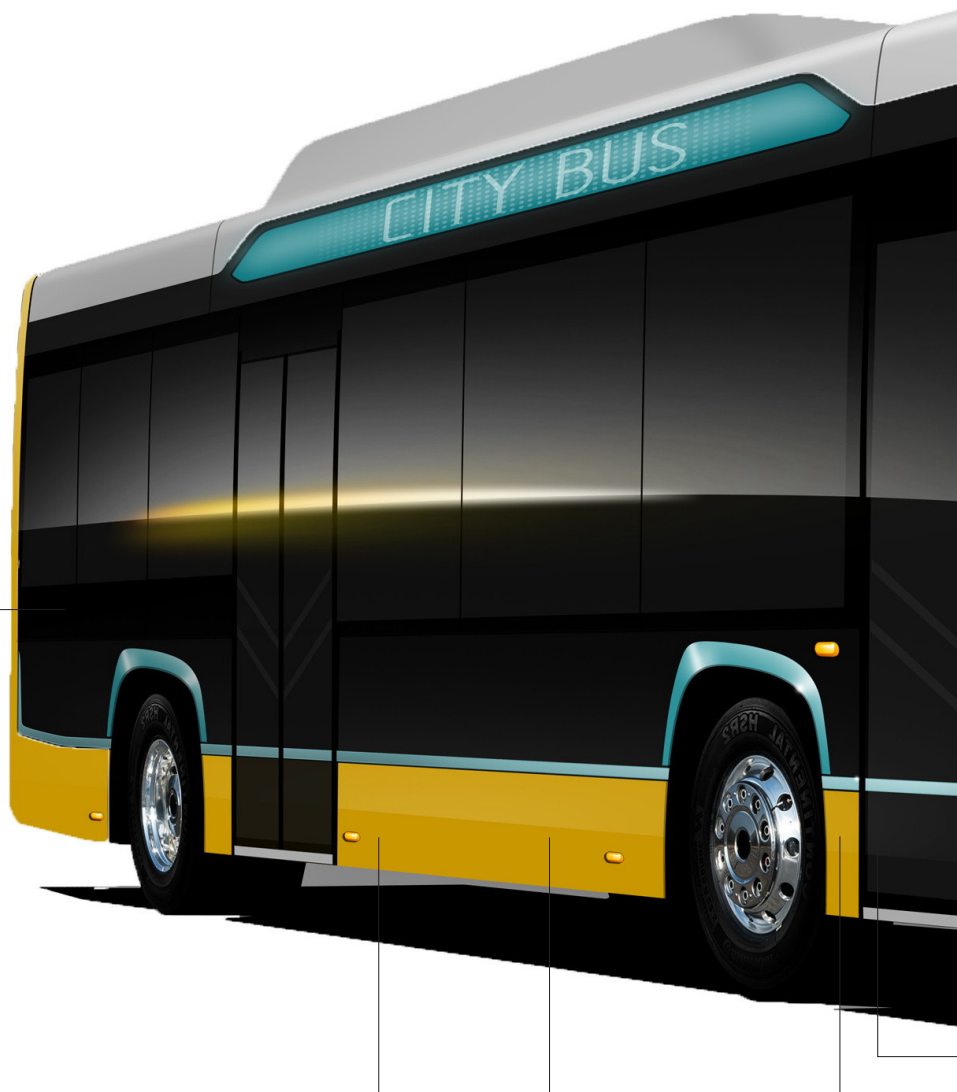
Floor level

The low entry point and flat floor up to the central doors area offer the same accessibility as for the low floor version in the front and middle sections. In the rear section a higher floor creates better view for passengers. The widened aisle contributes to increased accessibility, comfort and passenger flow.



PRODUCT DESIGN FEATURES

Our buses are produced in a long-standing partnership between Scania and Higer. Everything from the chassis construction to the powertrain and the body has been developed and thoroughly tested with a focus on reliability and performance without compromising on energy efficiency. The modular process for constructing the Scania Fencer body reduces production lead time and provides high serviceability through the generalization of spare parts.



Powertrain technology

The highly dependable, durable, and robust powertrains enable fuel savings of up to 9%.

Articulation control

Scania buses features an industry-leading control system for its articulated variants. It prevents instability and jack-knifing by using wheelspin control, traction control, articulation damping system and patented sway control. This facilitates handling, manoeuvrability, and safe driving in slippery conditions and during lane changes at high speeds.

Chassis frame construction

The strengthened front axle, in combination with the ability to now use wider tyres, means that load capacity is increased from 7.1 to 8.2 tonnes. This allows higher passenger capacity. It also enables optimised weight distribution between the front and rear axles – especially important for gas vehicles.

Fuel tanks

Available in several volume options suitable for urban operations. The shape of the 140–360 litre (usable volumes) fuel tanks is optimised for the inner layout to enable seat mounting closer to the wheelhouses.

The 450 or 535 litre (usable volumes) tanks can, in high articulation buses, be placed by the centre axle.



Front suspension technology

Without compromising on passenger capacity, the new independent front suspension offers excellent passenger comfort and enables a wider aisle (900 mm) – resulting in new layout possibilities, increased passenger flow, space and accessibility. The new rigid front suspension also increases passenger capacity and offers good passenger comfort.

Electric system

The new power supply architecture comes with improved electronic control units (ECUs) and functions that improve performance and facilitate diagnostics for repair and maintenance. It also enables new functionality within ADAS, e-mobility and autonomous transport systems.

Exterior design

Buses are a natural part of the cityscape, and the new styling with an attractive appearance, minimalistic design and high flatness contributes to a good passenger experience and accessibility for all passengers.

Additionally, the use of materials such as fiberglass along with anti-corrosion treatments have a positive impact on weight, quality and maintenance.

Interior design

The interior facilitates maintenance and daily cleaning thanks to its modular front roof with a wide access port and a reversible electrical cabinet, long-life LED lighting in the ceiling and a sloping floor for easy cleaning.

In addition, there is a hidden lock button for the air duct structure, which enables easy installation and maintenance.

Driver area

The driver area has a completely new design with improved ergonomics, safety, comfort, and the vehicles has excellent driveability.

- Excellent ergonomics and reachability – pedal placement, leg space, driver height settings, all-angle step-less seat adjustments, adjustable instrument panel and flexible switch placement due to CANfunctionality.
- Increased safety – advanced driver assistance systems, electropneumatic parking brake system.
- Excellent driveability – great turning radius, advanced driver assistance systems, and improved assisted handling, steering and braking.
- Enhanced climate system – improved climate system with better airflow.

Safety features

A range of functions support the driver in demanding urban environments.

- Electropneumatic parking brake control – locks the brakes until acceleration is activated, thereby preventing unintentional vehicle motion.
- Adaptive cruise control with active prediction – assists the driver to keep distance to vehicles in front.
- Vulnerable road user collision warning – detects cyclist and pedestrians close to the vehicle.
- Blind spot warning – detects other vehicles located in the driver's blind spot area.
- Underrun protection – rigid beams in the rear protects other road users and sensitive components on the chassis.

General

Wheel configuration: 2-axle, 3-axle with tag axle (steered), 3-axle articulated

Door configuration:

1-1-0, 1-2-0, 2-2-0 (2-axle)

1-1-0, 1-2-0, 2-2-0 (3-axle)

1-2-1-0, 1-2-2-0, 2-2-2-0 (articulated)

Dimensions

Length:

10.8 m, 12.0 m, 12.5 m, 13.0 m (2-axle)

13.0 m, 15.0 m (3-axle)

18.0 m (articulated)

Width: 2.50 m and 2.55 m

Height:

3.2 m (diesel)

3.3 m (gas)

Passenger area

Seating: Stear, Kiel seats or customer choice, wheelchair ramp at front or middle door, four priority seats with folding armrests, location for wheelchair or pram, folding seats, reading lamps and air nozzles

Equipment: Luggage rack, camera surveillance, infotainment system (Wi-Fi), USB charger, interior LED or fluorescent lighting

Roof hatches: Manual

Driver area

Seating: Driver seat ISRI

Instrument panel: Adjustable or fixed

Support systems: Scania Driver Support, electropneumatic parking brake control, adaptive cruise control, vulnerable road user collision warning, blind spot warning, lane departure warning, hill-hold

Equipment: Audio system, announcement system, USB charger

Destinations signs

LED destination sign in front, side and rear

Climate system

Convector circuit in passenger area, auxiliary heater (diesel or gas), defroster, separate or combined air conditioning for the driver, temperature-controlled ventilation and AC for passengers

Doors and windows

Tinted windows, single or double-glazed side windows, hopper window, double doors, inswing, outswing or sliding, pneumatic or electric operated doors at customer's choice

Powertrain – Combustion, Euro 5

Biodiesel, HVO, diesel:

9-litre 280 hp (206 kW) torque 1400 Nm

9-litre 320 hp (235 kW) torque 1600 Nm

9-litre 360 hp (265 kW) torque 1700 Nm

Fuel capacity (usable volumes):

140–360 litres (2-axle) for high floor 140–275 litres

140–360 litres (3-axle)

180–360 litre (low articulation)

180–560 litre (high articulation)

Powertrain – Combustion, Euro 6

Biogas, natural gas:

9-litre 280 hp (206 kW) torque 1350 Nm

9-litre 340 hp (250 kW) torque 1600 Nm

Fuel capacity: 1260–1875 litres

Gearbox:

6-speed fully automatic gearbox (ZF EcoLife 2)

12-speed manual gearbox with Scania Opticruise and retarder

Electrical system

LED headlights, LED daytime running, position and indicator lights,

LED side and rear lights

Battery 150, 180, 210 or 230 Ah or dual battery system

Alternator 150 A, 180 A, 2x150 A or 2x180 A

Brake and safety equipment

Disc brakes, electronic brake system (EBS), anti-lock brakes (ABS), traction control (TC), bus stop brake, hill hold, pad wear indicator, pipes manufactured from either rust-protected steel or high impact synthetics, separate air tanks for each circuit, exhaust brake with automatic control, rear view camera, fire extinguishing equipment in the engine compartment

Suspension and wheels

Independent front suspension or rigid front axle, kneeling front door, whole front or whole side, automatic or manual control, total raising and lowering

Rims: Aluminium or steel

Tyres:

Low floor: 275/70, 275/80, 295/80, 315/60, 315/70 (front)

275/70, 275/80, 295/80 (rear)

275/70, 275/80 (centre)

Low entry: 275/70, 275/80, 295/80, 315/60, 315/70 (front)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80 (rear)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80 (centre)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80, 385/65 (tag)

High floor: 275/70, 275/80, 295/80, 315/60, 315/70, 385/65 (front)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80 (rear)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80 (centre)

275/70, 275/80, 295/80, 315/60, 315/70, 315/80, 385/65 (tag)



Ensuring availability through reliable solutions

To make urban operations cost-effective, it is important to reduce downtime and increase usage. Our buses are based on proven technology and components, which results in chassis and drivelines that are reliable, durable and robust. That reliability is the key to minimising the time in the workshop and maximising the use of the vehicle. Our buses are designed and engineered to ensure that sensitive and expensive components are protected in the event of a collision. Limiting damage and avoiding deformation of components is critical for minimising costs, as well as complex and time-consuming repairs. In addition, our buses are designed to facilitate maintenance and make it as efficient as possible. Here, Scania, in close collaboration with Higer, takes full responsibility for excellent spare parts availability.

Excellent passenger capacity

Our buses allow operators to keep costs down by minimising the number of vehicles required during peak hours; high axle load capacity, reduced chassis and body weight, and new interior layout options mean vehicle weight can be kept down while increasing passenger capacity.

A first-class driver area

A bus operating in urban traffic is constantly exposed to the risk of external damage and the work environment for the driver can be very demanding. A quality driver environment can therefore play a crucial role in reducing the risk of collisions, downtime and sick-leave, while increasing employee retention. The driver area in our buses is simply first-class and can even be said to be industry leading. A great turning radius, good visibility, and an overall well-balanced vehicle makes for excellent driveability, while advanced driver assistance systems give the driver good control of the vehicle through improved assisted handling, steering and braking. This increases safety and helps minimise accidents and the associated costs. Due to the demanding work environment, operators also face challenges when it comes to sick leave and employee retention; that's why we've designed the best possible work environment for drivers in terms of ergonomics, reachability, climate control, safety features and an overall quality feel.



SERVICE OFFERING

Our offering consists of a number of services for minimising emissions, increasing safety, and improving operating economy, focusing on areas like fuel efficiency and uptime. These services allow us to provide solutions to each operators' individual challenges and needs.

Scania's data services generates insight and create business value through anything from position and speed to performance and driving style. Scania's data API's comply with the rFSM standards 1.x and 2.x.

Driver services

Enables drivers to drive safer and more efficient, and can reduce the need for maintenance.

Scania Driver Training

Combines theory and practice, covering topics such as safe and efficient driving, not only to save energy but even regenerate energy. The training also handles other aspects of professional driving, always with a focus on profitability, fuel economy and reduced emissions.

Scania Driver Evaluation

An on-board device that assesses the driving style by comparing it to that of drivers operating in similar conditions. The result, which can be used to achieve long term improvements, is visible in the Scania Fleet Management Portal and Scania Fleet App.

Fleet management services

Through the Scania Fleet Management Portal and the Scania Fleet App, operators can gain access to valuable insights into the performance and status of their fleet. The data collected onboard the bus provides valuable insights into driving styles, productivity and economy. This level of tracking and diagnostics can bring significant benefits in terms of increased uptime, improved safety and reduced operating costs.

Scania Zone

A position-based system for real-time vehicle adjustments in pre-defined zones. It allows operators to ensure that each vehicle stays within the set speed limits, increasing city safety and lowering fuel consumption. Scania Zone is an optional add-on in Scania's fleet management system.

Financial services

Flexible financing and insurance solutions that match operational needs, tailored to provide predictable costs and manageable risks – over the entire lifecycle of the vehicles.

Scania Financing

Tailored solutions for financing an expansion or a fleet renewal. Handled with professional knowledge of financial of the transport business and optimised for the local tax and legal environment.

Scania Insurance

Tailored solutions that, together with claims support service and Scania Assistance, will help get the vehicle back on the road quicker, safeguarding uptime – and peace of mind.

Repair and maintenance services

Having access to professional workshops and quality spare parts is key to keeping the vehicles in prime condition. Scania offers a range of repair and maintenance services:

Scania Flexible Maintenance

Uses real-time vehicle data to produce maintenance plans tailored to each vehicle's actual operation, meaning no underserving and no overserving. This is done by continually monitoring and analysing operational data to ensure maximum uptime and schedule maintenance customised to the operations, thus increasing productivity and decreasing disruptions.

Scania Fleet Care

The fleet operator receives a dedicated Fleet Manager from Scania equipped with advanced tools and systems, to optimise maintenance and prevent breakdowns based on operational data and vehicle data analysis.

Customer workshop services

Tailored collaboration services designed to facilitate workshop services for the operator by streamlining and quality assuring the workshop and processes to meet Scania's high standards.

Scania Higer service team

In close cooperation, Scania and Higer offer comprehensive and high-quality services to keep the vehicles in peak condition, increase utilisation and improve operating economy. Well-established and trusted service networks offer technicians regular service training with training material developed in multiple languages, assuring professional technical support 24/7.

Scania and Higer are both suppliers operating on the global market, and provide spare parts through consignment stock, online ordering systems, and more.

Additionally, all bus bodies carry a 24 month or 150,000 mileage warranty.