

Irizar i4

Technical specifications



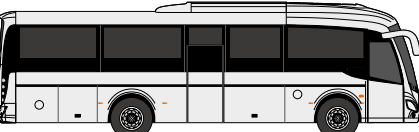
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The Irizar i4 - The power of versatility

The Irizar i4 is an ideal vehicle for metropolitan, commuter, school or business transport. The different versions of this vehicle (H, M, L) emphasize accessibility. The doors, with different single and double door options, enable lifts to be installed to facilitate access for reduced mobility passengers. The floors, which can be flat or lowered, and the unobstructed aisles underline the concept of adaptability. The structural redesign of this version, the incorporation of new and lighter materials and corresponding reduction of weight, along with a better aerodynamics provide this Irizar i4 with significant fuel savings.

Dimensions

Length	From 10.8 (2 axles) to 15 m (3 axles)
Height	3.40m
Width:	2.550mm



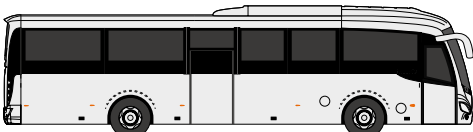
10.8m



12.9m



13.6m



12.2m



13.2m

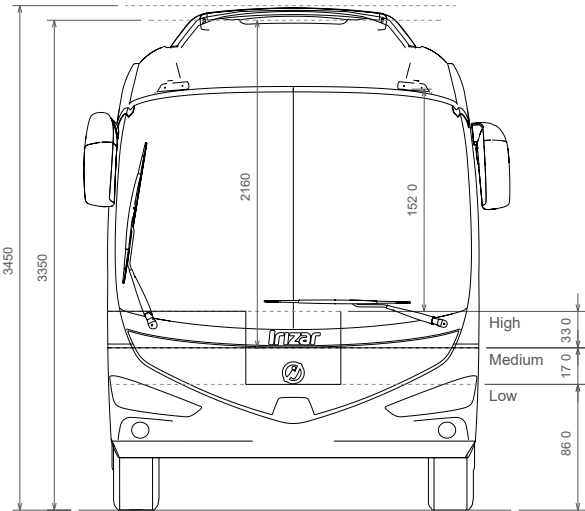


14.9m

* For other configurations, consult your sales representative.

Versions

It is presented in several lines of finishes and floor heights, H, M and L versions. The H version with a central aisle is designed for medium-distance routes. The flat-floored M version, with no aisle or steps, may be adapted to different configurations for persons with reduced mobility, both in the front and the rear. The L version is designed for short-distance lines with frequent stops and many standing passengers and has a low floor for better accessibility.



Weight reduction and fuel savings

The new Irizar i4 is a lightweight version which offers a significant reduction, and better distribution, of the weight of the vehicle. This redistribution has led to the development of a new 13.2 m version of the Irizar i4 model, on 2 axles, which also means a major reduction in fuel consumption in all versions of the model.

A more spacious interior and a new Irizar i4 seat

All the innovations added to the exterior have resulted in improvements to the interior space, resulting in a spacious vehicle for both driver and the passengers. The spaciousness and optimal layout of the passenger cabin, the carefully designed ergonomics of the seats, the reduced levels of noise emission and vibrations and the versatile fixtures and fittings all enhance passenger comfort.



Up to a **4% reduction** in fuel consumption

New length available 13.2 metres on 2 axles, with 63 seat spaces

A top quality driver’s position

The Irizar i4 driving position offers a spacious and ergonomic environment with high visibility, safety, comfort and ease of driving.

In the interior, the use of new materials and modern manufacturing technologies improve durability, ageing, and recyclability of the materials. There is a particularly striking new dashboard design that allows for the modular integration of vending machines and SAE systems.

DRIVER AND GUIDE	
ISRI 6860/875 NTS 2 carpet fabric driver’s seat	
Leather driver’s seat	optional
Left and right armrests on the driver’s seat	optional
Swivelling driver seat	optional
Heated driver seat	optional
Guide seat	optional
12V charger for driver	
Multifunction steering wheel	
Multifunction leather steering wheel	optional
Electrically operated windshield blinds	optional
Vending machine base	optional
Safe for driver	



* This information may vary depending on the country.

Passenger area - A unique experience

In the interior, the use of new materials and modern manufacturing technologies improve durability, ageing, and recyclability of side panel, interior visors, and roof centre materials. Another striking feature is the aesthetic redesign of seats and partitions to create a warmer and modern environment, a new line of more robust and functional diffusers, new lighter luggage racks, full LED lighting integrated in the central part of the roof, and panel covers made of stainless steel for improved reliability and access for maintenance tasks.



PASSENGER AREA	
Wide central door (1,100mm)	optional
Double central door (1400 mm)	optional
PRM elevator	optional
Folding seats in the PRM area	optional
Rails and anchors for PRM	optional
Luggage compartment covers	
Driver compartment	optional
Individual reading light and air vent	optional
Carpeting in the aisle, driver’s area and foot rest	optional
carpet in aisle, driver’s area and footboard	
Curtains	
Floor with metal particles	optional
Carpet	optional
i4 seats in carpet fabric	
i4 seats with synthetic leather headrests.	
i4 seats with leather headrests	optional
2-point safety belts on seats	
3-point safety belts on seats	optional
TECAM seat fixing system	optional
reclining seats	
Folding armrest, magazine rack, footrest, table	optional
Side handrail bars	optional
Podester across from central footboard	optional
Single central door (900mm)	

Equipment

ELECTRICITY AND ELECTRONICS		
ACTIA DVD equipment ACTIA front screen 22"		<i>optional</i>
BOSCH DVD equipment ACTIA front screen 22"		<i>optional</i>
BOSCH DVD equipment BOSCH front screen 19"		<i>optional</i>
ACTIA Audio equipment		
BOSCH Classic line audio equipment		<i>optional</i>
BOSCH Professional line audio equipment		<i>optional</i>
15" extra monitors		<i>optional</i>
GPS		<i>optional</i>
Camera in central footboard		<i>optional</i>
Digital clock		<i>optional</i>
Stop requested signal		<i>optional</i>
Parking sensors		<i>optional</i>
Rear view camera		<i>optional</i>
Front, side and rear destination signs		<i>optional</i>
WiFi internet connection		<i>optional</i>
220 V / USB outlet		<i>optional</i>
Remote control opening and alarm		<i>optional</i>

HVAS / HEATING AND VENTILATION SYSTEM	
Air Conditioning: Dual zone climate control unit	
Heating system	
Artica climate control unit	SEP
Programmable Pre-heater	SEP
Heated battery compartment	SEP
Air purifier	<i>optional</i>

OTHERS	
Front LED headlights	<i>optional</i>
Pneumatic luggage compartment covers	<i>optional</i>
Heated windscreen	<i>optional</i>
Double side windows	
Extra-stained side windows	SEP
Fire detection system in the engine area	
Fire extinguishing system in the engine area	<i>optional</i>
Pre-fitting for trailer hook	<i>optional</i>
Aluminium wheels	
Alcoa Durabright aluminium wheels	<i>optional</i>
Refrigerator in dashboard	<i>optional</i>
Ski rack attachment system	<i>optional</i>

Maximum accessibility

Facilitating the accessibility and mobility of persons

Passenger accessibility and spaciousness have become a key issue in the design of the Irizar i4 and, as such, innovations in this area have been introduced for the purpose of offering maximum comfort and maximum accessibility for passengers.

The doors, with different single and double door options, enable lifts to be installed to facilitate access for reduced mobility passengers. The floors, which can be flat or lowered, and the unobstructed aisles underline the concept of adaptability.

Central door options

Single central door, width = 900 mm
Cannot have PRM lift

Central door, width = 1100 mm
Can have PRM lift

Double central door, width = 1400 mm
Can have PRM lift



Propulsion systems

The Irizar i4 offers energy efficient and reliable propulsion systems like diesel, HVO and biodiesel, hybrid and natural gas (CNG or LNG).

Diesel, biodiesel and HVO Whole vehicle Irizar brand

	MX11 251	MX11 270	MX11 300
Disposition of cylinders	6 in-line cylinders	6 in-line cylinders	6 in-line cylinders
Cylinder capacity	10.8 l	10.8 l	10.8 l
Valves	24 V	24 V	24 V
Power supply	Common-Rail	Common-Rail	Common-Rail
	Variable geometry turbo	Variable geometry turbo	Variable geometry turbo
Maximum power	251 kW	270 kW	300 kW
	341 hp	367 hp	408 hp
	(1,675 rpm)	(1,600 rpm)	(1,600 rpm)
Maximum torque (Nm)	1,500 Nm	1,900 Nm	2100 Nm
	(900-1,400 rpm)	(900-1,400 rpm)	(900-1,400 rpm)
Emissions compliance	EURO 6-E	EURO 6-E	EURO 6-E



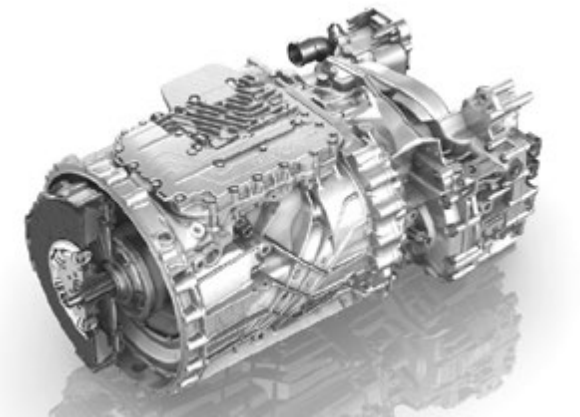
ZF Ecolife Coachline

Six speed automatic change with torque converter

Can transmit torque up to 2350 Nm

ZF Retarder with three brake stages included.

Electronics with advanced software for optimum fuel consumption.



Traxon

12-speed automated manual gearbox.

Can transmit torque up to 2800 Nm.

ZF Power intarder with 3 brake stages.

Electronics with advanced software for optimum consumption.



ZF Axles

Front axle RL82EC and rear axle A133. In case of three axles, RL82EC third steering axle. Independent front and third-axle suspension as standard.

Electronically-controlled air suspension (ECAS) to achieve optimum stability and comfort

Braking system with ABS, ASR, ESC, BFD... electronically controlled by the EBS. Disc brakes on all wheels.

Reduction in fuel consumption

The efficiency and optimal performance of the power trains and components of our coaches offer major savings through fuel and emissions reduction.

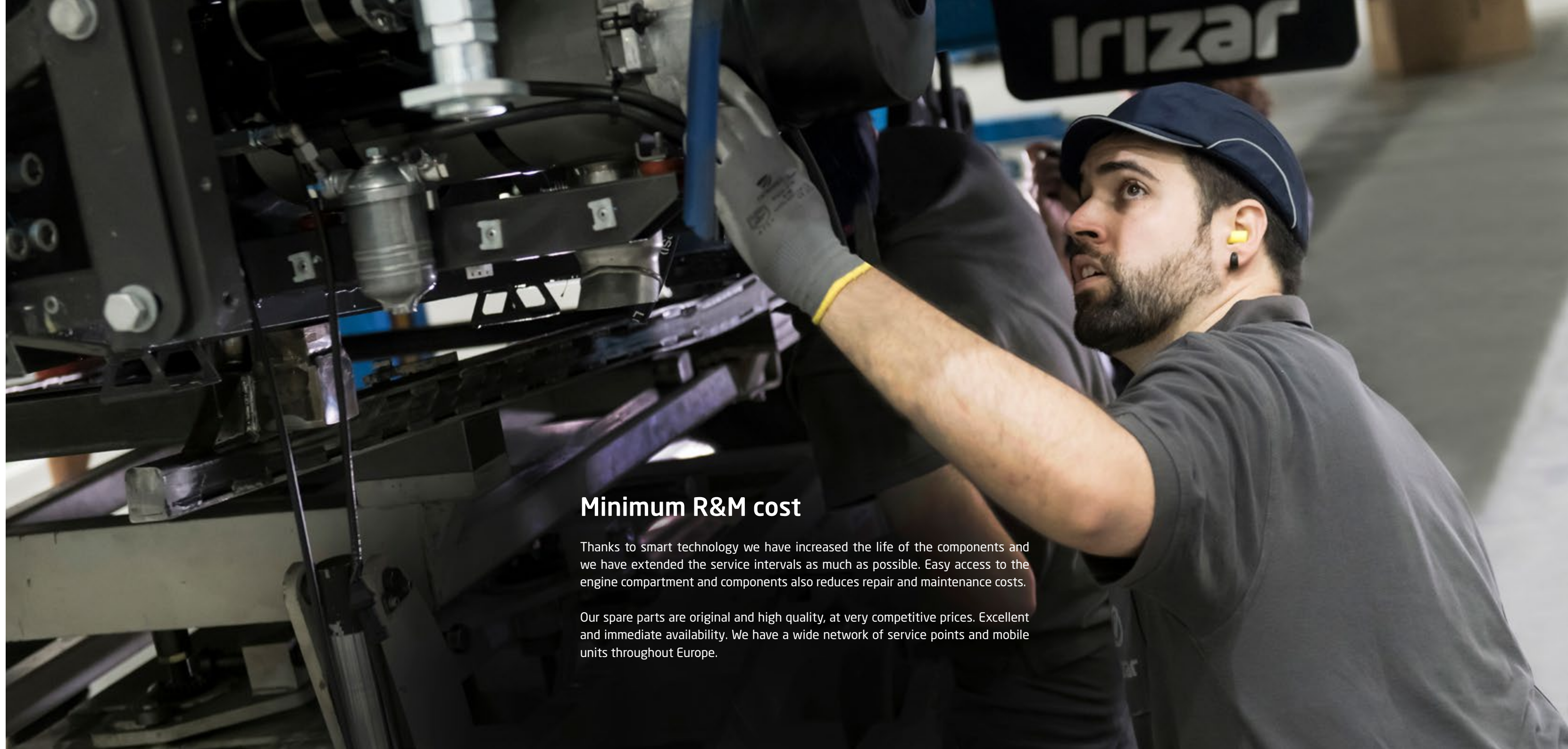
Weight reduction, improved aerodynamics and power on demand technology also contribute to this reduction.

Driving style has a big impact on fuel consumption. The ease with which our vehicles can be driven and our driver assistance systems, as well as our eco-driving services can contribute to significant savings.

Minimum R&M cost

Thanks to smart technology we have increased the life of the components and we have extended the service intervals as much as possible. Easy access to the engine compartment and components also reduces repair and maintenance costs.

Our spare parts are original and high quality, at very competitive prices. Excellent and immediate availability. We have a wide network of service points and mobile units throughout Europe.



Leading the way in safety

To help prevent accidents and create a safer suburban environment, our buses are fitted with the latest active safety systems.

Front collision warning*

Warns of an impending forward collision, giving the driver enough time to react.

Road sign and excess speed recognition*

System that recognises road signs and speed limit signs, as well as additional signs. It reads the sign and notifies the driver if they are going over the speed limit indicated on the sign.

Safety distance monitoring*

Safety distance monitoring warns the driver if they are driving at an unsafe distance from the previous vehicle.

Connected vehicle*

Up to 3% fuel savings, thanks to maximum efficiency in the advance management of road conditions. Using GPS technology, it uses detailed map information and predicts the road conditions that are about to be encountered, adjusting the speed set in the cruise control.

Pedestrian collision warning*

Daytime warning with visual alerts of an impending collision with a cyclist or pedestrian.

EBS

Electronic brake control system equipped with ABS, ASR, ESC, BFD...

ABS

System that prevents wheel lock during braking in order to prevent the tyres from skidding, shortening braking distances and offering greater control over the direction of the vehicle.

BFD

Braking distribution control system that determines how much force is applied to each wheel in order to achieve the desired deceleration (under any vehicle load situation) without losing stability and attempting to optimise the even wear of the brake pads of the different axles.

ESC

Electronic stability control system that acts by braking the wheels individually or together in situations where the vehicle has lost stability or is at risk of tipping.

TPMS

Tyre pressure and monitoring system.

LDWS*

Lane departure warning system.

ASR

Traction control system to prevent the loss of wheel grip on slippery ground.

ECAS

Electronically-controlled air suspension system to ensure vehicle stability and passenger comfort. “Kneeling” function and manual height adjustable suspension as standard.

AEBS*

Advanced emergency braking system that helps minimize the risk of a collision or limit its consequences.

FCW+PCW*

Forward collision and pedestrian alert system, warns of possible collisions with vehicles or objects ahead, as well as with pedestrians,

TSR*

Traffic signal recognition system.

* Optional systems

Efficiency and sustainability hand in hand

At Irizar, sustainable mobility goes hand in hand with operational efficiency. We boast one of the largest ranges of buses, coaches and technological solutions to suit every operator need: zero-emissions electric buses, hybrid, natural gas, diesel, biodiesel coaches. A wide range of options covering all market segments: city buses, suburban, medium- and long-distance coaches for both regular, occasional and premium services. All designed to offer maximum safety, high levels of reliability and energy efficiency.



*We offer the right vehicle
for each operation,
thus optimizing energy
efficiency and minimizing
environmental impact and
noise levels.*

Guaranteed vehicle reliability and availability

Our coaches undergo rigorous reliability tests before they are marketed. They are currently operating on 5 continents in extreme conditions.

They include robust, reliable tried and tested technology and components, to reduce downtime and increase availability and use.

They are also designed to facilitate maintenance and make it more efficient.



Always by your side - Our Services



Turnkey projects and services that meet customer needs.



Repair and maintenance contracts.



Close, customised attention and advice.

A full range of services to maintain the buses in optimal conditions, improve their performance, minimise emissions and increase operational economy.

- Wide service network and mobile units with trusted technicians.

- Training courses to ensure that their safety and repair and maintenance performance is always of the highest quality.

- iService platform (catalogue, e-shop Help Desk, order tracking ...) for service management.

- 24/7, 365 days a year.

- On demand warranty period

- Immediate availability of quality original spare parts at very competitive prices.

- Fleet manager with advanced iPanel technology integrated into the specific processes of each customer. This enables comprehensive monitoring of cost and driving efficiency, resulting in constant improvement in safety, performance and profitability.

- Comprehensive electronic management and monitoring solutions for predictive maintenance. The collected operational data is analysed to predict and schedule vehicle maintenance and ensure maximum uptime.

- Eco-driving courses to teach drivers to drive more efficiently and safely, providing significant benefits in terms of increased activity time, improved safety and reduced operating costs.

ECO Propulsion systems

Hybrid in Scania bodywork combination

Hybrid electric Euro 6E	Power	Torque	Emissions monitoring	Fuel
9 litre engine	320 cv (235 kW)	1600 Nm	SCR	Biodiesel, HVO, diesel
Electric motor	130 kW	1030 Nm		

Powertrain
DC09 140 320 hp Euro 6 diesel engine
Scania Opticruise automated gearbox, E-GRS895
Electrical machine located between the engine and the gearbox
Roof unit with energy storage, independent cooling, Battery air conditioning system and DC / DC converter

Motor
ICE cubic capacity: 9.3 litres
Maximum ICE power: 320 cv (239 kW) a 1900 r/min
Maximum ICE torque: 1600 Nm between 1050 and 1400 r/min
Euro 6E Scania SCR emissions technology

12 speed gearbox with integrated elca machine
Scania Opticruise E-GRS895 gearbox
Permanent magnet electric motor
Maximum power: 130 kW
Maximum torque 1050 Nm
Electric machine weight 60 kg

Energy storage
Li-Ion battery, 15 modules with 12 battery cells each
Total installed energy: 31 kWh
Useful energy: 7.9 kWh
Capacity: 48 Ah
Voltage: 650 V
Battery pack weight: 257 kg
Expected Service Life: Varies based on the energy recycled in the batteries - may fluctuate between 4 and 5 years



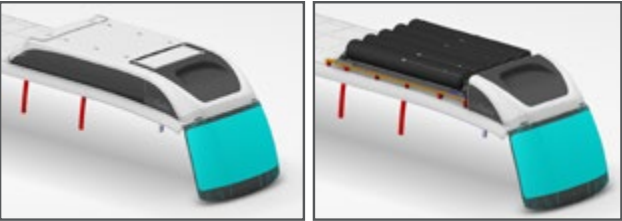
Natural gas (CNG and LNG)

Irizar-Scania

*Consult through manufacturers available on the market



1. Charging panel
2. Gas panel
3. CNG cylinders
4 Water preheater (optional)



Type 4 CNG tanks: Made of plastic-coated composite
Total:
4x315 dm3 or 5x315 dm3, (total volume of 1260 dm3 or 1575 dm3)
Weight without gas: 510 kg
Approx. gas capacity: 240 kg
Approx. total weight: 750 Kg

ENGINE
Scania OC09 106 Euro 6 Compressed Natural Gas
9.290 cc with EGR technology
3-way catalytic system emission control
Fixed Geometry Turbo (FGT)
5 cylinders. 4 valves per cylinder
Bosch direct injection. Stoichiometric
Maximum power: 235 kW (320 cv) @ 1900 rpm
Maximum torque 1500 Nm @ 1100-1400 RPM

TRANSMISSION
Scania GRS895R 12-speed + 1 reverse gear ZF ECOLIFE optional
Manual / Automatic drive hydraulic retarder
Scania Opticruise drive automated manual / automatic mode
Hill Hold system
Economy and Standard gear change programmes
Microphone over driver's seat
* Scania GRS0895R overdrive 12-speed + 2 reverse gears

DRIVING POSITION
VDV adjustable drive panel
3.8" monochrome screen
Scania C300 fleet management system
On-board computer
Automatic retarder activation
*Opt Stoneridge or Continental digital tachograph
*Opt Display Colour Plus TFT 6.5" colour screen
*Opt Cruise Control
*Opt Preparation for FMS

FUEL SYSTEM
4X315 dm3 or 5x315 dm3 L IV Agility type
NGV2 fast charging nozzle NGV1 slow charging nozzle

STEERING
450mm steering wheel adjustable height and tilt
Maximum wheel blocking at 52°

AXLES AND WHEELS
1 axle 7,500kg
2 axle 12,400kg

BRAKES
Electronically managed disc brakes
Control of uniform pad wear on instrument panel
Independent circuits: front, rear and parking
EBS, ABS, ESP and Traction Control (TC)
Hill Hold
Open door brake
Parking brake release valve

SUSPENSION
Electronically Load Controller (ELC)
Chassis raising and lowering
Stabilizer bar on each axle
* Full side kneeling

ELECTRIC SYSTEM
CAN Bus system
Alternators: 2x150 A
Batteries: 230 Ah System voltage 24 V
Disconnect switch on instrument panel
Thermal magnetic fuses

Safety

Safety during the manufacturing process

During the bus manufacturing process, several phases of leak checks are carried out prior to final fuel (CNG) loading. These checks are performed with nitrogen:

First phase

Controlled up to 20 bar pressure in which all the connections of the gas installation are checked one by one

Second stage

Monitored up to 210 bar pressure in which all connections are re-tested one by one

Other safety measures.

Aerosol fire extinguishing system with water additive.

Gas leak detector and all high pressure circuit terminations (leakage, autonomous heating, engine compartment) display and warning in the driver's cab

Tank safety solenoid valve closure. This is an electric valve (located at the inlet of each of the cylinders) which controls the passage of gas from the cylinders to the rest of the installation. The valve opens or closes in response to electromagnetic pulses from a solenoid (a type of electromagnet). It works as an on/off device and closes automatically (for safety) where the temperature and/or pressure fuses detect any anomaly in the system. If the connectors are connected, the valves also remain closed without supplying pressurized gas to the rest of the installation.

Safety Regulation 110

Thermal safety

If the temperature of the tanks approaches or exceeds 110°C, 3 thermal fuses per tank release the gas upwards in a flare.

Mechanical safety:

If the pressure inside the cylinders is > 290 bar, one overpressure valve per tank releases the gas upwards.

Maintenance

Simple and standardized maintenance. Easy access to compartments and components.

The maintenance cost is similar to a conventional diesel vehicle.

Simplified emission control system - less maintenance compared to PAF. Much simpler catalytic converter than in Euro 6

Reinforced sidewall tubes - R66.02 even with 700kg extra weight on the roof

Range

Up to 500 km in the compressed natural gas version and double in the liquefied natural gas version.



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