

Communications Model Lines, Innovation and Technology

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Benchmark for Long-Distance Journeys: the Charging Power of the Audi e-tron

- **150 kW fast charging over a large portion of the charging procedure**
- **80 percent in 30 minutes, full charging to 100 percent in less than 50 minutes**
- **Thermal management facilitates a high performance and longevity**

Ingolstadt, May 10, 2019 – With the e-tron*, Audi is making electric mobility a reality for long-distance driving – thanks in part to charging power that is unique among the competition. The e-tron is not only the first mass-produced car that can be charged with up to 150 kW of electricity at a fast charging terminal. The high charging power over a large portion of the charging procedure sets a benchmark and shortens downtime. Sophisticated thermal management of the battery ensures the performance capability at cold and hot outside temperatures.

Most charging procedures take place at home or at the workplace – the time factor generally does not play a major role here because the car is at a standstill for a long time. By contrast, every minute counts on a long-distance journey, and charging quickly is essential, for example on a business trip. After a brief break, the car should be ready for the next stage again. The Audi engineers systematically implemented this important basic requirement for an electric car when developing the Audi e-tron.

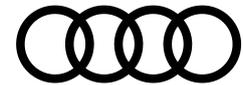
Convincing: the charging curve

In the current competitive environment, the charging power of the Audi e-tron sets a benchmark – and not just because of the capability of High Power Charging with up to 150 kW. A high current consumption on the part of the battery over a wide charging range is, at the very least, just as important as maximum power.

The 150 kW charging curve of the Audi e-tron is characterized by continuity at a high level. Under ideal conditions, the car charges from 5 percent to 70 percent at the threshold of the maximum power before intelligent battery management lowers the current levels in order to protect the lithium-ion cells and guarantee the life cycle. A major difference from other concepts, which normally only reach their full power for a short time (peak) and lower their power considerably before reaching the 70 percent threshold. This is because the Audi e-tron continues charging at over 100 kW when it reaches 80 percent.

The equipment, data and prices stated here refer to the model range offered for sale in Germany. Subject to change without notice; errors and omissions excepted.

* The collective fuel consumption values of all models named and available on the German market can be found in the list provided at the end of this MediaInfo.



On a day-to-day basis, this means an elementary benefit: For a range of around 100 kilometers, the customer ideally spends less than 10 minutes at the charging terminal. The Audi e-tron reaches the 80 percent mark after just under 30 minutes. Even though it takes much longer for technical reasons, to fill the remaining 20 percent of a lithium-ion battery, fully charging the Audi e-tron at a HPC terminal takes less than 50 minutes – an outstanding characteristic compared with the competition.

Clever: the thermal management

The lithium-ion battery of the Audi e-tron has a nominal capacity of 95 kWh and has been designed for a long life cycle. Its elaborate thermal management system forms the basis for a well-balanced performance. Liquid cooling ensures that the battery's temperature remains in the optimum range of 25° to 35 degrees Celsius, even at high stress levels or low temperatures. This technical design guarantees a high charging and driving performance and also prevents the cells from being subjected to excessive stress.

The core of the cooling system is made up of extruded profiles – visually comparable with a slatted frame – which have been affixed to the battery system from below. A newly developed, thermally conductive adhesive joins the cooling unit to the battery housing. The gap filler forms the contact between the housing and the cell modules placed in it. This filler is a thermally conductive gel that fills the space to the housing beneath every cell module. In what is a particularly efficient solution, the gel evenly transfers the waste heat produced by the cells to the coolant via the battery housing. The spatial separation of elements and battery cells carrying cooling water also increases the overall system's safety.

Comprehensive: the charging options

In addition the charging power and battery capacity, the availability of charging terminals is a key factor in limitless, worry-free electric mobility. Audi has not left anything to chance regarding the infrastructure either. With its dedicated e-tron Charging Service, the brand with the four rings currently makes around 100,000 charging points available in 17 EU countries by card or smartphone. Standardized, country-specific prices mean that you can travel freely and easily without having to constantly compare prices. On longer trips, Audi customers charge their cars at the HPC terminals of the IONITY network at special conditions. This network is being gradually expanded and is set to have 400 stations in 2020 already. Additional HPC charging points operated by reputable providers round off the e-tron Charging Service for long-distance journeys and create additional flexibility.

– End –

Fuel consumption of the models listed

(Information on fuel/power consumption and CO₂ emissions in ranges depending on the chosen equipment level of the car)

Audi e-tron

Combined electrical consumption in kWh/100 km: 26.2–22.6 (WLTP); 24.6–23.7 (NEDC)

Combined CO₂ emissions in g/km: 0



The indicated consumption and emissions values were determined according to the legally proscribed measuring methods. Since September 1, 2017, the type approval for certain new vehicles has already been performed in accordance with the Worldwide Harmonized Light Vehicles Test Procedure (WLTP), a more realistic test procedure for measuring fuel consumption and CO₂ emissions. Beginning September 1, 2018, the WLTP will gradually replace the New European Driving Cycle (NEDC). Due to the realistic test conditions, the fuel consumption and CO₂ emission values measured are in many cases higher than the values measured according to the NEDC. Additional information about the differences between WLTP and NEDC is available at www.audi.de/wltp.

At the moment, it is still mandatory to communicate the NEDC values. In the case of new vehicles for which the type approval was performed using WLTP, the NEDC values are derived from the WLTP values. WLTP values can be provided voluntarily until their use becomes mandatory. If NEDC values are indicated as a range, they do not refer to one, specific vehicle and are not an integral element of the offer. They are provided only for the purpose of comparison between the various vehicle types. Additional equipment and accessories (attachments, tire size, etc.) can change relevant vehicle parameters, such as weight, rolling resistance and aerodynamics and, like weather and traffic conditions as well as individual driving style, influence a vehicle's electrical consumption, CO₂ emissions and performance figures.

Further information on official fuel consumption figures and the official specific CO₂ emissions of new passenger cars can be found in the "Guide on the fuel economy, CO₂ emissions and power consumption of all new passenger car models," which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, Germany (www.dat.de).

The Audi Group, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 18 locations in 13 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2018, the Audi Group delivered to customers about 1.812 million automobiles of the Audi brand, 5,750 sports cars of the Lamborghini brand and 53,004 motorcycles of the Ducati brand. In the 2018 fiscal year, AUDI AG achieved total revenue of €59.2 billion and an operating profit before special items of €4.7 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.
