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Volkswagen hydrogen electric car with a range of 2000 km

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Volkswagen has patented a new, more economical fuel cell. This will allow a hydrogen electric car of the brand to travel about 2,000 kilometers with only one tank.

Volkswagen hydrogen electric car

Volkswagen's new fuel cell is cheaper and offers great autonomy

In recent years, senior Volkswagen executives have taken a skeptical stance on hydrogen, pointing to the electric vehicle as the future.

However, the German brand seems to be interested in this market. newly, Allied with Kraftwerk To develop new technologies in this field.

As a result of this collaboration, the two companies have patented a fuel cell that promises to be cheaper and more efficient.

How does this new fuel cell work?

While electric vehicle batteries consume the stored battery, fuel cells for hydrogen vehicles can produce their own energy.

This hydrogen is stored as a gas in a high-pressure tank (or at very low temperatures if it is a liquid). The fuel cell then converts the hydrogen into electricity through the use of a cathode and anode.

Hydrogen (H2) enters through the anode and passes through an electrolytic membrane that divides it into a proton (H+) and an electron (e-).

Then an electrolyte directs them to different paths. The electron passes through an external circuit to generate an electric current and start the motor. The protons move to the negative electrode where they combine with oxygen and an electron to produce water and heat.

Volkswagen's new hydrogen fuel cell electric vehicle will have a range of up to 2,000 km

In this process comes the innovation of Kraftwerk and Volkswagen which uses a ceramic film instead of the usual plastic solution from other manufacturers.

As explained by Sasha Kohn, CEO of Kraftwerk, when **interested in trade**The big advantage of this solution is that it can be produced much more economically than polymer fuel cells. Plus, they don't use any kind of platinum," a precious metal that drives up the cost of other solutions.

So this new system is similar to a solid state battery, since they basically have the same number of electrolytes and a very similar structure.

The big difference is that solid state batteries store energy in a compact material. This fuel cell uses hydrogen in gas for this task.

Lower production cost and greater autonomy

The new fuel cell thus becomes an excellent alternative to the current models. In addition to not freezing in the winter or drying out in the

summer (it does not need to be humidified), it also generates heat that can be used in the car's air conditioning.

Added to this is the fact that it is very efficient, as it will provide drivers with a range of up to 2000 km with only a deposit. So this is a value greater than one electric car or fuel.

When will this new electric version of Volkswagen arrive?

Although developed with Volkswagen, Kraftwerk has confirmed that this will not be an exclusive technology for the German manufacturer and intends to be incorporated by other manufacturers.

> **A new fuel cell will be implemented in electric cars from 2026**

According to the brand's plans, the technology is expected to be applied to series production vehicles from 2026, with at least 10,000 units produced per series and distributed by several manufacturers.

Video – How does a hydrogen fuel cell work?

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