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*Rheinmetall Automotive wins major order:*

## Electric vacuum pumps for carmaker in China – order volume comes to €250 million

A prominent international automaker has awarded the Automotive arm of the Düsseldorf-based technology group Rheinmetall AG a major order for electric vacuum pumps. Worth a total of €250 million, the components are being manufactured by Pierburg Huayu Pump Technology (PHP), a joint venture of Rheinmetall Automotive in Shanghai.

Preparations for production began last year. The pumps, which support the brake system, will be installed in plug-in hybrid electric vehicles (PHEV) at the customer's factories in China. Following the decline in production volumes in March and April 2020 resulting from the coronavirus outbreak, the Pierburg Huayu Pump Technology plant in Shanghai is now operating at 100 percent again. Current call-offs by the customer for pumps have returned to the originally planned volume levels.

Pierburg developed the electric vacuum pumps in Germany, where production began back in 2017 in response to another order from the same customer. The chief advantage of electric vacuum pumps is that they can be switched off as soon as the braking maneuver is complete, whereas mechanical vacuum pumps operate continuously when the vehicle is running, even when there is no need. Furthermore, electrical vacuum pumps do not have to be connected to the engine's lubrication system. This means that the size of the oil pumps can be reduced, in turn resulting in increased drivetrain efficiency.

In hybrids, electric vacuum pumps enable pure electric driving with the internal combustion engine switched off, since the brake booster function remains fully operational. It makes it possible to coast, with the engine switched off and decoupled in order to achieve additional energy savings through reduced friction in the drivetrain (expanded start-stop operation).

The pumps can also be used in fully electric vehicles and even in conventional engines. Indeed, given the current trend toward downsized engines, electric pumps are indispensable in that they assure the vacuum level necessary for boosting brake performance.

Besides significantly reducing fuel consumption and emissions, the pump demonstrates excellent acoustic characteristics. Because electric and hybrid vehicles are so quiet, the noise produced by the pumps has to be so low that it is unnoticeable during driving. Proprietary developments of Rheinmetall Automotive, the pumps and integrated engine enable mounting solutions in which the electric vacuum pumps can be attached to the body frame independently of other subassemblies without causing annoying vibrations.

## ► Key facts

- Chinese automaker orders electric vacuum pumps worth €250 million
- Production in China at Pierburg Huayu Pump Technology, Shanghai
- Following coronavirus shutdown, plant operating at 100 percent again, call-offs approaching pre-pandemic levels
- Developed in Germany

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