Bafang Electric (Suzhou) Co., Ltd.
No. 6 Dongyanli Rd • Suzhou Industrial Park • 215125, Suzhou China

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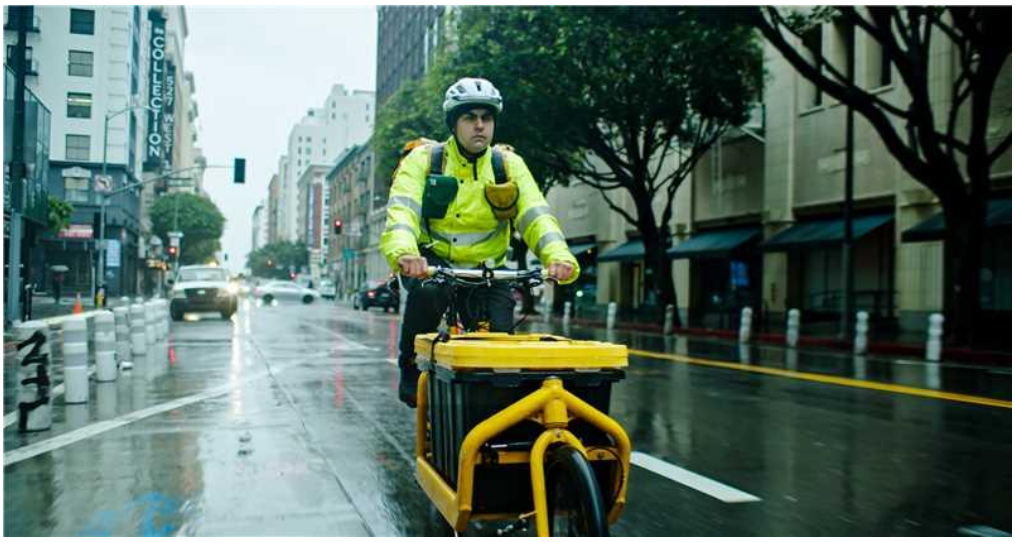
Press release

Bafang Launches M430 Drive System – Professional 300kg Payload Solution for Cargo Bikes



Suzhou, June 2025 – As online consumption surges, the demand for urban goods transportation continues to grow. Electric Cargo Bikes, recognized for their flexibility and low-carbon footprint, are becoming an increasingly common sight navigating city streets.

At Eurobike 2025, from June 25 to 29, Bafang will unveil its professional-grade drive system solution for cargo bikes with a total payload capacity of 300kg: the M430 Drive System. Engineered for demanding commercial use, the system delivers 120 Nm of maximum torque, 910W peak power, and an 800% maximum assistance ratio.

“The specification of these parameters is not arbitrary,” explains Leo Wang, Senior R&D Manager at Bafang. “It's the culmination of 17 years of experience. Since initiating our collaboration with the French Postal Service (La Poste) on projects in 2008, Bafang has consistently delivered solutions for diverse commercial and shared mobility applications. We deeply understand the requirements of these demanding use cases.”

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Cargo bikes, by definition, are built to carry heavy loads. They face frequent stops and starts, and must handle varied road conditions. Riders need effortless acceleration, confident hill climbing, sustained performance under load, and responsive, agile handling. In technical terms, this translates into a critical need for high torque, high power, and a high assistance ratio.

Torque represents the motor's rotational strength. It directly impacts acceleration from standstill, hill-climbing ability, load-carrying capacity, and low-speed power response. Simply put: a high-torque motor acts like a strong individual, capable of exerting significant force on the bike even at low speeds during starts or climbs.

Power indicates the energy output per unit of time. It influences sustained speed capability, maximum assisted speed, and overall power delivery. Simply put: a high-power motor is like a sprinter who can achieve high speeds and maintain them.

Assistance Ratio defines the amplification factor between the motor's torque output and the rider's pedal input. It significantly affects hill climbing ease and acceleration performance. Simply put: a high assistance ratio means the motor shoulders more of the driving force, compensating for the resistance of the extra weight of a fully-loaded cargo bike. This drastically reduces muscle strain on the rider, minimizes fatigue over long distances, and provides greater composure on bumpy terrain.

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However, evaluating a cargo drive system requires considering additional dimensions like responsive handling, extended range, and thermal management. The M430 system addresses these with key features, including precise sensor technology, varying cycling modes, and long-term durability:

A high-precision torque sensor ensures seamless synchronization between pedaling effort and motor output. This significantly improves response during acceleration and starting, reduces pedaling burden, and creates an intuitive, natural riding sensation akin to enhanced personal strength.
Configurable riding modes (e.g., Eco, Sport, etc.) provide varying power and assistance levels. Users can switch modes based on load: select Sport mode for maximum support when fully laden, and switch to Eco mode after unloading to maximize range and overall trip efficiency.

Enhanced thermal management, achieved through advanced thermal interface materials, reduces operating temperature rise by approximately 10%. Combined with an efficient control algorithm, this contributes to an approximate 5% improvement in overall system efficiency, bolstering long-term durability and reliability under heavy, sustained loads.

“Specifications are tools, user needs are paramount,” emphasized Leo. “Bafang continuously refines its product lines around the specific demands of diverse applications to empower mobility.”

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About BAFANG:
BAFANG, one of the leading manufacturers of e-mobility components and e-drive systems, has been developing components and complete systems for electric vehicles since 2003. The company is listed on the Shanghai Stock Exchange (603489.SS) and focuses on all global e-mobility trends of the future: be it individual e-bikes, e-scooters or for public bike sharing systems. Bafang employs over 1000 people at 10 international locations worldwide. The headquarters, development and production sites are located in Suzhou, in the immediate vicinity of Shanghai/China. A virtual tour of the new headquarter in Suzhou via a VR Panorama Tour starts here.

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Bafang has sales and service centers in the Netherlands, the USA, Germany, Denmark, France, Italy, and China. The newly opened plant in Poland focuses on the production of mid-motor systems for the European markets.

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