

Comfortable vehicle access: Brose sets new standards



Frankfurt am Main (16. September 2015) A side door that opens automatically, barely audible power locks and the proven system for hands-free opening and closing of liftgates – automotive supplier Brose is making vehicle access more comfortable than ever before.

Drawing on its many years of experience in door systems and liftgates, the mechatronics specialist has developed a concept for a side door drive that moves hinged car doors even on slopes. A sensor registers the exact position of the door at all times. Anti-trap protection ensures safety when closing the door manually. The system can be controlled via smartphone, too.

The concept also offers a new level of comfort for manual opening and closing: a variable door check holds the vehicle door in any desired position. In the next stage of development, integrated electronics will simplify incorporation in the vehicle electrical system.

Door latches – lightweight and low-noise

Automatic door opening systems require power locks, and Brose offers two variants. These can be designed with electrical or mechanical redundancy depending on customer requirements. The lock with electrical redundancy eliminates the need for opening mechanisms, which makes the product especially light, saving up to two kilograms per vehicle. The integrated power supply provides at least 48 hours of power as needed. The lock with mechanical redundancy is fully scalable, from emergency operation only to a complete mechanical system with all locking modes. These lock variants are particularly quiet thanks to the use of Brose's patented cable actuator. Another advantage of the power locking technology is the new design freedom for control elements, in particular the exterior door handle.

Lightweight design concepts for high-volume production

As a system supplier, Brose always takes the weight of the entire unit into account. The company is setting standards in lightweight design for high-volume production with door systems made of intelligent materials. The use of organo sheets (long-fiber-reinforced thermoplastics) saves up to two kilograms per vehicle – and as much as five kilograms compared to steel doors. And the same level of crash safety performance is ensured: the layered structure and local reinforcements absorb four times as much energy as conventional plastics solutions, despite the low wall thickness of only 0.5 millimeters. However, functional elements such as window regulator rails can still be integrated into the composite material.

Lower weight – greater safety

Brose's Flex-Pol® actuator is a lightweight solution for closure systems that is also ready for high-volume production. The product operates the central locking mechanism, anti-theft feature and power child locking. It replaces up to three mechanically commutated motors plus gears, without having to adapt the control hardware. This makes the lock more robust and lighter. It saves 1.3 kilograms per vehicle compared to Brose's high-end Unilatch lock – despite the addition of the power child locking function. At the same time, it takes up ten percent less space. A new sensor provides exact information about the status of all locking modes, replacing three microswitches in the process.

