

GETRAG 6DCT451

The extremely flexible six-gear dual-clutch transmission for high-torque front-transverse applications

The six-gear transmission 6DCT451 was developed for front-transverse installation in the middle and upper middle class segment and in sport utility vehicles (SUV). Various installation space requirements and torques up to 450 Nm are covered.

The Getrag 6DCT451 can be easily combined with all-wheel drive and with start/stop functionality without additional components. Coupled with an electric motor, the transmission can also be used in a hybrid drive.



The shortened reaction times when shifting (compared to conventional converter multi-step automatic transmissions) allow for more fun while driving and provide a responsive driving experience. By individually adjusting the transmission control software it is possible to cover various driving profiles (comfortable, sporty, racing, etc.).

Compared to traditional hydrodynamic torque converters, dual clutches have the advantage of targeted control and thus optimised start-up and shifting procedures with regard to the driving dynamic and driving comfort. Furthermore, Getrag Powershift transmissions combine the high efficiency of a manual transmission with an application-specific shifting strategy, which achieves a clear reduction in fuel consumption and CO₂ emissions at the vehicle level compared to traditional automatic transmissions. The transmission control, which is embedded in a mechatronics module, also works directly with motor management.

The transmission 6DCT451 has six forward gears and one reverse gear. The even gears (2,4,6) and the odd gears (1,3,5,R) are split on two separate transmission parts. The interface to the combustion engine with dual mass flywheel is designed as a wet dual clutch in a nested layout. The activation of the clutches and the shift forks is done by an integrated hydraulic system.

The transmission 6DCT451 has an integrated control unit, is taught in at the transmission plant and programmed with customer-specific software. Thus, it is guaranteed that the transmission is ready to be directly installed in the vehicle plant.

About Getrag

Getrag is the world's largest independent transmission system supplier, with approximately 13,500 employees in 23 locations. The company's head office is in Untergruppenbach, Germany. The company develops and produces transmission solutions for the automotive industry. Getrag has a broad product portfolio which includes manual, automated manual and dual-clutch transmissions. The company also offers a range of solutions for the hybridisation and electrification of transmissions. The total turnover in 2014 was around 1.695* billion EUR.

* In 2014, the Getrag Group switched from the HGB accounting standards to the IFRS accounting standards. Under HGB, the sales of the Getrag Group's joint ventures could be fully consolidated. Under IFRS, these sales must be accounted for through the equity method. In 2014, the turnovers for the joint ventures were: 1.119 billion EUR (Getrag Ford Transmissions) and 446 million EUR (Getrag Asia Pacific).

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GETRAG 6DCT451

Technical Data

Transmission:	6DCT451
Maximum speed:	7,000 min ⁻¹
Maximum torque:	450 Nm
Weight (dry):	81 kg
Installation length:	397.7 mm
Space between input shaft and differential:	197 mm
Shortest total transmission ratio, 1st gear:	17.31
Transmission ratio:	5.17 - 7.88
Dual clutch:	nested wet clutch
Actuating elements:	hydraulic shift actuation hydraulic clutch actuation
Other	3-shaft design integrated electronic control
Features / Options:	engine start-/stop capability AWD capability park-by-wire extended Sailing