

## GETRAG 6DCT250

### The extremely flexible dual-clutch transmission medium-front transverse applications

Getrag Powershift is the product range of the latest dual-clutch transmissions from Getrag. They unite the convenience of a conventional automatic transmission with the direct response characteristics and high level of efficiency of a manual transmission. All Getrag dual-clutch transmissions work without interrupting the power flow and achieve a reduction in fuel consumption and CO<sub>2</sub> emissions of 4 - 8 % compared to conventional automatic transmissions. With the 6DCT250 with dry dual clutch and electromechanical actuators, consumption reductions of up to 20 % are achieved. The oil in the 6DCT250 is retained for life, which results in considerable advantages in terms of maintenance and running costs.



The 6DCT250 six-speed transmission has been designed for front-transverse installation in the mid-sized and compact vehicle segment for torques up to a maximum of 280 Nm. It can be equipped with a separate PTU with an all-wheel drive system, as well as a start/stop function without modification of the hardware. Combined with an electric motor, the transmission can also be used in a hybrid drive.

The shortened response times when changing gear (compared to conventional automated step transmissions) allow for greater driving pleasure and provide a more direct driving experience. Due to the individual adaptation of the transmission-shift control, it is possible to select various driving profiles (comfortable, sporty, etc.).

Compared to the conventional hydrodynamic converter, dual clutches offer the advantage of targeted actuation resulting in optimised vehicle launch and gearshift processes with respect to the dynamics and driving comfort. In addition, Getrag dual-clutch transmissions combine the high degree of efficiency of a manual transmission with an application-specific shifting strategy, thereby resulting in a considerable reduction of fuel consumption and CO<sub>2</sub> emissions compared to conventional automatic transmissions. The transmission control, which is embedded in a mechatronic module, also works directly with the engine management system. The actuator system for the clutch and gearshift actuation is run electromechanically.

The 6DCT250 front-transverse transmission has six forward gears and one reverse gear. The even (2, 4, 6, R) and odd-numbered gears (1, 3, 5) are divided into two partial transmissions. A dry dual clutch connects the engine and the two partial transmissions.

The transmission is designed as a product for the global market with a consistent common-part strategy. The extremely high flexibility in the application makes it possible to adapt the transmission quickly and efficiently to the requirements of the customer by means of minimal, and in most cases already standardised, adjustments. The main functional elements such as clutch, gearshift, actuators, control unit and synchronisation are designed as common parts for many different applications. This common-part strategy not only allows for the product flexibility demanded by the market, but also makes it possible to produce all customer versions on just one production line. Market demands can therefore be responded to very quickly and cost-effectively.

In terms of shifting quality and comfort, the 6DCT250 can compete with conventional automated step transmissions and even wet dual-clutch transmissions. Emphasis was consistently placed on past experience with Getrag dual-clutch transmissions, which were already on the market. With regard to the levels of efficiency and consumption, transmissions with dry dual clutches and electromechanical actuator standards set the standard through minimised losses.

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### 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 Unterturkheim, 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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### Technical Data

Transmission	6DCT250
Maximum speed:	7,200 min <sup>-1</sup>
Maximum torque:	280 Nm*
Weight (dry):	67 - 73 kg**
Installation length:	350 - 380 mm
Input shaft - differential	183/186/197/205.9 mm
Overall gear ratio, 1st gear:	15 – 18.5
Ratio spread:	5.6 – 7.2
Actuators:	electromechanical gear and clutch actuation
Transmission oil:	Fill for Life; 1.7 litres
Dual clutch:	parallel dry dual clutch, with DMFW interface unit
Other details:	3-shaft gear set layout
	Mechatronics as an extension element
	All-wheel drive application possible
	Mechanically actuated parking lock
	Can be started/stopped without hardware changes

\* Depending on vehicle data such as weight, wheel diameter and transmission ratios

\*\* Without DMFW, oil