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Engines, transmissions and chassis: state-of-the-art drive and chassis technology

- Five engines: two petrol, three diesel; power output from 85 kW (115 PS) to 140 kW (190 PS)
- > Three-cylinder 1.0 TSI provides 85 kW (115 PS)
- > 1.5 TSI with cylinder shutdown provides 110 kW (150 PS)
- > In addition, a 1.6 TDI with 85 kW (115 PS) and a 2.0 TDI with 110 kW (150 PS)
- > Top-of-the-range engine: 2.0 TDI with 140 kW (190 PS), all-wheel drive and 7-speed DSG
- > Choice of a 6-speed manual or 7-speed DSG transmission
- > All-wheel drive can be combined with three engines
- > Depending on engine, towing capacity of up to two tonnes
- > Sophisticated chassis design for optimal all-round characteristics
- > Dynamic Chassis Control with three chassis modes
- > Driving Mode Select with four profiles: Normal, Eco, Sport and Individual
- > Special Off-Road and Snow modes for all-wheel-drive variants

The ŠKODA KAROQ offers state-of-the-art drive and chassis technology and presents itself as an all-round model with off-road qualities. A choice of five engine variants with a power output ranging from 85 kW (115 PS) to 140 kW (190 PS) is available. All units are turbocharged direct-injection engines and feature Stop-Start technology and brake energy recovery. They are efficient and meet EURO 6 emissions standards. Except for the most powerful diesel, all units can be ordered with either a 6-speed-manual or a 7-speed DSG transmission. The 2.0 TDI with 140 kW (190 PS) is fitted with all-wheel drive and 7-speed DSG as standard. A special feature of the 1.5 TSI is the cylinder shutdown.

The distinctive feature of the new 1.5 TSI engine with a power output of 110 kW (150 PS) that achieves a maximum torque of 250 Nm between 1,500 and 3,500 rpm is Active Cylinder Technology (ACT). This works by switching off the second and third cylinders for a short time when their power output is not needed. Thanks to ACT, the engine saves up to 0.5 I of fuel per 100 km, depending on driving style. ACT is used between 1,250 and 4,000 rpm, between 25 and 100 Nm of torque, and at a speed of up to 130 km/h.

The 2.0 TDI with 140 kW (190 PS) features impressive maximum torque of 400 Nm, available between 1,750 and 3,250 rpm. It provides great tractability and sporty acceleration.

Further engines include a three-cylinder 1.0 TSI with 85 kW (115 PS), achieving maximum torque of 200 Nm, which impresses with dynamic power development and a throaty note. Two more diesel engines complete the range: the 1.6 TDI with 85 KW (115 PS) and maximum torque of 250 Nm is the diesel entry-level model. The 2.0 TDI with 110 kW (150 PS) features distinctive smooth running and powerful torque of 340 Nm achieved between 1,750 and 3,000 rpm.

Both 2.0 TDI versions come with an SCR system (Selective Catalytic Reaction) that initiates a targeted urea injection into the exhaust gas system. This causes a chemical reaction that extracts the damaging nitrogen oxides from the exhaust gas.



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Engine	Transmission	Drivetrain	Consumption – urban (I per 100 km)	Consumption – extra-urban (I per 100 km)	Consumption – combined (I per 100 km)	CO₂ emissions (g/km)
1.0 TSI / 85 kW	6-speed M	4×2	6.2	4.6	5.2	117
1.0 TSI / 85 kW	7-speed DSG	4×2	5.7	4.7	5.1	116
1.5 TSI / 110 kW	6-speed M	4×2	6.6	4.7	5.4	122
1.5 TSI / 110 kW	7-speed DSG	4×2	6.5	4.8	5.4	123
1.5 TSI / 110 kW*	7-speed DSG	4×4	-	-	5.7	132
Engine	Transmission	Drivetrain	Consumption – urban (I per 100 km)	Consumption – extra-urban (I per 100 km)	Consumption – combined (I per 100 km)	CO ₂ emissions (g/km)
1.6 TDI / 85 kW	6-speed M / 7- speed DSG	4×2	5.0/4.4	4.3/4.1	4.5/4.2	118/112
2.0 TDI / 110 kW*	6-speed M	4×2	-	-	4.4	115
2.0 TDI / 110 kW	6-speed M	4×4	5.9	4.5	5.0	131
2.0 TDI / 110 kW	7-speed DSG	4×4	5.7	4.9	5.2	137
2.0 TDI / 140 kW**	7-speed DSG	4×4	5.9	4.8	5.2	134
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** Preliminary data

Choice of a 6-speed manual or 7-speed DSG transmission

All of the transmissions available for the compact SUV have a wide ratio range – the lower gears with short ratios ensure sporty acceleration, while the highest gear with a long ratio reduces consumption.

The engines with a power output of 85 to 110 kW are available in conjunction with a 6-speed manual gearbox. The manual gearbox of the 2.0 TDI delivering 110 kW (150 PS) comes with a magnesium case: the gearstick travel is short; the shifting gate is precise.

There are two automatic 7-speed direct-shift transmissions (DSG) available. The dry-clutch version of the DSG is available exclusively for the two-wheel-drive variant.

A 7-speed wet-clutch DSG, which is capable of higher levels of torque, is used for vehicles with allwheel drive. Its temperature control is provided by a heat exchanger that is connected to the engine's cooling system.

The direct-shift transmission comes in an extremely compact design, transmitting the engine torque via three shafts: one input and two output shafts. It consists of two sub-transmissions: two multiplate clutches operate the gears. Whilst driving, only one sub-transmission is engaged at any one time, although both are permanently active. When the driver accelerates in third gear for example,



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the second sub-transmission has already pre-selected the fourth gear, ready to be engaged. Because of the use of two clutches, the gear can be changed within a few hundredths of a second and without any noticeable loss of traction. The driver can control DSG manually using the gear lever or the steering wheel paddles. In combination with the optional Driving Mode Select, the Eco mode features an 'idle' function that lowers consumption: as soon as the driver takes their foot off the accelerator, drive is disengaged – and the compact SUV is coasting.

Sophisticated chassis design

The state-of-the-art chassis with its harmonious design provides the compact SUV with distinct allround characteristics.

The front axle which has been placed far forward – a MacPherson design with lower triangular wishbones and a steel subframe – provides for a well-balanced load distribution on the axles. The front track measures 1,576 mm.

The rear of the front-wheel-drive vehicles uses a space-saving tie bar axle. This also creates space for a full-sized spare wheel. The all-wheel-drive variants feature a **four-link rear axle**. Their rear track measures 1,541 mm. The sword-shaped trailing arms absorb the driving and braking forces. Three wishbones per wheel keep the wheels in the optimum position in relation to the road at all times and guarantee precise track guidance.

The **all-wheel drive** of the compact SUV ensures optimum driving characteristics even on slippery ground or when towing a heavy trailer. The ŠKODA KAROQ is equipped with an electronically controlled multi-plate clutch. Various sensors (such as a wheel speed sensor, steering angle sensor, longitudinal and lateral acceleration sensor, accelerator pedal position, engine speed, torque and many others) continuously evaluate the driving situation and transmit the measured values to the all-wheel-drive electronics which calculate and implement the optimum torque distribution.

The ŠKODA KAROQ is also suitable as a tow car. Depending on the engine and drive variant, the maximum towing capacity is up to two tonnes.

With the all-wheel-drive versions, the **electronic differential lock (EDL)** provides additional traction support on the rear axle. It enables even and comfortable starts on road surfaces with varying grip. If a wheel is spinning, EDL slows it down specifically and ensures that power is transmitted to the wheel with better traction.

Due to **Dynamic Chassis Control**, the driver in the ŠKODA KAROQ has three chassis modes available: Comfort, Normal and Sport. Electrically operated valves adjust the operation of the dampers. A computer controls the operation depending on road condition, preferred driving style and selected mode. DCC contributes to active safety by automatically stiffening the dampers in corners which are navigated particularly dynamically. This provides greater stability, better traction and shorter braking distances. DCC chassis control is available for the all-wheel-drive versions.

With **Driving Mode Select**, the driver can change the steering characteristics, the operation of the DSG transmission, and the settings of other systems in the Normal, Eco, Sport and Individual modes. The individual settings are stored on the optional, personalisable key for up to four driver profiles.



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In **Snow mode**, the electronic assistance systems are set for dealing with slippery road surfaces. Here, the Anti-lock Braking System (ABS) works in a similar way to that in Off-Road mode (it uses the snow piled up in front of the slipping wheels as braking wedges).

Optional for the all-wheel-drive variants is **Off-Road mode** which is activated at the touch of a button and provides an even better driving performance on rough terrain. To improve traction in Off-Road mode, the Traction Control System (TCS) permits a greater slip and the Electronic Differential Lock (EDL) reacts more sharply and quickly. Where necessary, Hill-Hold Control and Hill-Descent Control are also activated – the latter keeps the speed constant at the current level. The optional DCC shock absorbers change their characteristics, and the accelerator responds more gradually. The Anti-lock Braking System (ABS) varies its intensity, so that a wedge of earth can be formed in front of the wheels, thereby producing a braking effect.

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- currently offers the following model series: CITIGO, FABIA, RAPID, OCTAVIA, KAROQ, KODIAQ and SUPERB.
 delivered more than 1 million vehicles to customers worldwide in 2016.
- has been part of Volkswagen Group since 1991, one of the most successful vehicle manufacturers in the world.
- ŠKODA, in association with the Group, independently manufactures and develops vehicles as well as components such as engines and gear transmissions.
- > operates at three locations in the Czech Republic; produces in China, Russia, Slovakia, Algeria and India mainly through Group partnerships, as well as in Ukraine and Kazakhstan with local partners.
- > employs over 30,000 people globally and is active in more than 100 markets.

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