



PORSCHE



# Press Information

Porsche Boxster

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The new Porsche Boxster

## **Lightness means faster and more efficient**

Lighter and more fuel-efficient, faster and more agile – with an all-new lightweight design body and completely revamped chassis, the latest generation of the Boxster is setting new top scores for Porsche Intelligent Performance. Considerably lower weight, a longer wheelbase, a wider track and larger wheels significantly enhance the mid-engine sports car's driving dynamics yet further, already far and away the best in its class, supported by the new electro-mechanical power steering. As an additional boost to driving dynamics, Porsche offers the Sport Chrono Package as an optional extra for the Boxster, featuring dynamic transmission mounts for the first time. Also new in the Boxster is Porsche Torque Vectoring (PTV) with mechanical rear axle differential lock.

The new Boxsters boast superior performance as well as being up to 15 per cent more fuel-efficient. They boast ultra-modern, direct fuel injection, six-cylinder engines and all variants get by with less than nine litres of fuel per 100 kilometres, the Boxster with PDK even managing with less than eight litres. The most important data at a glance:

Boxster	2.7-litre boxer engine with 265 hp (195 kW); rear-wheel drive, six-speed manual transmission, optional seven-speed Porsche-Doppelkupplungsgetriebe (PDK); acceleration 0 – 100 km/h in 5.8 seconds, with PDK in 5.7 seconds (5.5 seconds with Sport Chrono Package); top speed 264 km/h, with PDK 262 km/h; fuel consumption (NEDC) 8.2 l/100 km, CO <sub>2</sub> 192 g/km; with PDK 7.7 l/100 km CO <sub>2</sub> 180 g/km.
Boxster S	3.4-litre boxer engine with 315 hp (232 kW); rear-wheel drive, six-speed manual transmission, optional seven-speed Porsche-Doppelkupplungsgetriebe (PDK); acceleration 0 – 100 km/h in 5.1 seconds, with PDK in 5.0 seconds (4.8 seconds with Sport Chrono Package); top speed 279 km/h, with PDK 277 km/h; fuel consumption (NEDC) 8.8 l/100 km, CO <sub>2</sub> 206 g/km; with PDK 8.0 l/100 km CO <sub>2</sub> 188 g/km.

Never before in the history of the Porsche Boxster was a change of generation so comprehensive and so clearly apparent at first glance: The change in proportions is a lasting one. For example, the wheelbase has increased by 60 millimetres and the front track width by up to 40 millimetres and at the rear by up to 18 millimetres, as a result of which the wheels align flush with the body. The windscreen is flatter and set approximately 100 millimetres further forward; all in all the Boxster is up to 13 millimetres lower. Together with its convertible top line extended far to the back, the new Boxster cuts a very elegant silhouette. Another factor contributing to its sportier appearance is that the body is a mere 32 millimetres longer than before, while at the same time the overhang at the front has been reduced by 27 millimetres – the Boxster remains the compact roadster.

Typical of the enhanced design is the shoulder line, which runs from the strongly upward curving front wing into the rear side section and which also accommodates the exterior mirrors, now in the vicinity of the upper edge of the door. Particularly expressive and characteristic is the new dynamic indentation in the door, which guides the intake air to the striking intake in the rear side section: you can see where the roadster's heart beats. The more distinctive shapes of the wings, doors, intake air guide and top further accentuate the wheel housing. The newly designed, larger alloy wheels emphasise the car's dynamics even when it is stationary. The Boxster comes with 18-inch wheels featured as standard; the Boxster S is equipped with even more imposing 19-inch format wheels – each with its own individual design. 20-inch wheels are available as an optional extra.

The new Boxster's front-end is dominated by the large lateral radiator openings and the headlights. Both the halogen headlights, standard for the new Boxster, and the new Bi-Xenon headlights, standard for the Boxster S, were completely redeveloped. The headlights, also redesigned, with daytime driving and position lights in LED technology, are integrated above the striking air intakes.

The rear end of the new Boxster models has been completely redesigned: there is no longer any convertible-top compartment lid, rear wing and lights are linked by a prominent edge spanning the entire vehicle width and the central lamp unit located beneath it combines the rear fog light and reversing lights in one flat strip. The new tail lights, all in LED technology, are perfectly integrated into the rear apron, with their shape curving around the corner of the car. The redesigned tailpipes complete the deep, centred look. This is further emphasised by the diffuser, which spans the width of the vehicle. A characteristic feature of the Boxster is an oval tailpipe; the Boxster S has a twin-flow double tailpipe.

Engine and transmission**More power from the middle**

The Boxster's mid-engine concept has been a decisive reason for its outstanding agility ever since the roadster has existed. In addition, the flat-six engines with their economical performance, located forward of the rear axle, make the two-seater Porsche a model of performance and efficiency.

The new Boxster models have opened a whole new chapter here. With direct fuel injection, thermal management, electrical system recuperation and auto start/stop function, both models' engines are even more powerful than before on the one hand while being more than 15 per cent more fuel-efficient irrespective of model on the other hand. Comparative figures:

<b>Boxster</b>	<b>new</b>	before	<b>Δ</b>
Displacement	<b>2,706 cm<sup>3</sup></b>	2,893 cm <sup>3</sup>	-187 cm <sup>3</sup>
Performance	<b>265 hp at 6,700 rpm</b>	255 hp at 6,400 rpm	+10 hp
Torque	<b>280 Nm at 4,500-6,500 rpm</b>	290 Nm at 4,400-6,000 rpm	-10 Nm
Fuel consumption with manual transmission	<b>8.2 l/100 km</b>	9.4 l/100 km	-1.2 l/100 km (-12.8 %)
PDK	<b>7.7 l/100 km</b>	9.1 l/100km	-1.4 l/100 km (-15.4 %)

<b>Boxster S</b>	<b>new</b>	before	$\Delta$
Displacement	<b>3,436 cm<sup>3</sup></b>	3,436 cm <sup>3</sup>	+/-0 cm <sup>3</sup>
Performance	<b>315 hp at 6,700 rpm</b>	310 hp at 6,400 rpm	+5 hp
Torque	<b>360 Nm at 4,500-5,800 rpm</b>	360 Nm at 4,400-5,500 rpm	+/-0 Nm
Fuel consumption with manual transmission	<b>8.8 l/100 km</b>	9.8 l/100 km	-1.0 l/100 km (-10.2 %)
PDK	<b>8.0 l/100 km</b>	9.4 l/100km	-1.4 l/100 km (-14.9 %)

The Boxster's engine has been derived from the Boxster S machine according to the down-sizing principle and has a displacement of 2.7 litres – 0.2 litres less than its predecessor. Both bore and stroke have been reduced. In the standard model, increased performance, higher revs and the specific design of the combustion chamber for direct fuel injection with higher compression resulted in a change to the light alloy pistons. On the intake side, both engines feature variable valve lift and variable valve timing (VarioCam Plus) with the range of adjustment increased from 40 to 50 degrees. Moreover, the engines breathe through an especially flow-optimised and thus efficient air intake system. The main reason behind the reduced breathing resistance is that air is now drawn in from both air intakes on left and right. Moreover, a pressure sensor measures the intake manifold pressure instead of a conventional hot-film mass air flow sensor, which is located in the air flow and thus acts as an obstacle. In the 3.4-litre six-cylinder engine of the Boxster S, a controllable resonance flap further improves the charge level, thus providing high torque at low revs and an even torque curve.

**Intelligent efficiency: electrical system recuperation, thermal management, coasting**

To increase efficiency, the boxer engines feature electrical system recuperation and map-controlled cooling water thermal management. In terms of electrical system recuperation, the battery receives an increased charge during the braking or coasting phases. Reducing the generator charging current with a full battery in turn reduces the load on the combustion engine during acceleration phases as the combustion engine does not have to sacrifice so much power for charging the battery. Thanks to the intelligently managed cooling systems shared by both engine and transmission, both of them reach their operating temperatures more quickly, meaning better combustion under partial load with less friction. To avoid any disadvantages under full load, the map-controlled thermostat – as required by the driver – very quickly reduces the temperature under full load even below the level of the predecessor model, thus ensuring an optimal charge and maximum performance. Moreover, Porsche is introducing the start/stop function for PDK and manual transmission in the Boxster as well.

The Boxster with PDK transmission is borrowing the principle of only drawing on engine power when it is actually needed from the new 911 Carrera: so-called coasting. What is meant by coasting is rolling along without power, with the engine idling and with low fuel consumption to match. In practice, that means fuel savings of up to one litre per 100 kilometres with a forward-thinking driving style in everyday driving. Coasting is initiated by slowly taking one's foot off the accelerator or by a manual upshift command if the highest possible gear given the driving situation already happens to be engaged. Coasting is ended by accelerating, braking or by manually changing gear. Coasting is better for fuel consumption because it enables the vehicle to harness its kinetic energy and convert it into forward motion.

**Standard equipment: manual six-speed gearbox**

The gearbox is critical to driving performance, comfort and fuel consumption values. A six-speed manual gearbox is fitted as standard in the new Boxster models, the gear ratios being optimally matched to the engine characteristics. The Boxster's new ergonomics and the more precise shift characteristics now offer the driver even better prerequisites for fast and effortless gear changes: The upward inclined centre console, as in the Carrera GT,

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and the driver's seat position ensure a very short distance between the steering wheel and gearshift lever. The new gear indicator in the rev counter indicates which gear is selected, the upshift recommendation in the instrument cluster acts as a guide for the driver assisting with consumption-optimised driving.

### **Optional equipment: redesigned Doppelkupplungsgetriebe**

The extensively redesigned Porsche PDK, available as an option, offers seven gears, gear changes without interruption to the power flow making for faster sprints and lower fuel consumption. The latest generation PDK has been rigorously enhanced for performance but with fuel consumption and comfort characteristics being improved as well. The driver immediately realises that the optimised shift points are significantly quicker in accommodating his wishes. The new Boxster models are tangibly more responsive; even in normal mode they reach higher speeds more quickly, thus providing increased agility. Overtaking is also supported by a PDK function: When the driver presses the accelerator pedal briefly but firmly, the PDK understands that a sprint is imminent and selects the lowest possible gear to ensure the fastest possible overtaking manoeuvre through high acceleration power.

Heavy braking is supported by faster downshifts at higher engine speeds, which are started earlier and are punctuated by intermediate acceleration – accompanied as ever by highly emotional sound. This retains higher revs and thus performance. This provides increased power output coming out of bends, thanks to the optimisation of the shifting programmes, and the significantly reduced shifting times, the latter especially in manual mode as well. For example – subject to a suitable stretch of road – a controlled drift is possible with Porsche Stability management (PSM) deactivated: detection of the yaw angle and steering wheel angle prevents upshifting thus permitting this very special driving fun. Pressing the sport button, now fitted as standard, provides a further increase in the performance, with regard to both the engine's fuel intake and the shifting strategies of the PDK. In combination with the features relating to the chassis and the engines, the new Boxsters with PDK deliver a completely new driving experience.

This is in no way at the expense of comfort – quite the reverse. The change to more comfortable and more economic engine speeds after a dynamic driving phase is also effected faster. The drive-off behaviour has also been optimised, providing the very highest performance while remaining comfortably relaxed and also extremely agile.

The new Boxster models now offer a sport button, featured as standard, which allows the driver to choose between a sporty setup and a comfortable setup optimised for fuel economy. In sport mode, the electronic engine management system controls the engine with more bite. This makes the engine dynamics even more direct. On vehicles with Porsche Doppelkupplung (PDK), upshifts take place later and downshifts earlier in automatic mode. Moreover, the start/stop function and the coasting function are deactivated.

#### **New: Sport Chrono Package for the first time with dynamic transmission mounts**

The optional Sport Chrono Package, which now includes dynamic transmission mounts for the first time, makes for a very wide spread between a sporty setup – for example for the race circuit – and driving comfort in everyday use. In conjunction with PDK and the Sport Plus button with the Launch Control function, it supports the best possible starting acceleration. The vehicle thus requires 0.2 s less for 0 to 100 km/h than in the normal mode. The Sport Plus button also activates the PDK “racing track” shift strategy; the lowest possible gear is engaged at all times, braking downshifts are performed already from around 4,000 rpm with the fastest possible downshifting, optimal shifting points and torque enhancement during the shifting operations.

To further improve the driving dynamics as well as the driving comfort, the Sport Chrono Package also comes with dynamic transmission mounts. These change their rigidity and damping characteristics according to the current driving situation. The Boxster’s engine-transmission unit is mounted on three points of the body: the front engine mount and the two rear transmission mounts. The dynamic transmission mounts significantly reduce the transmission of vibrations from the entire drive train and in particular from the engine to the body. The system does this by using a damper fluid with magnetisable characteristics and an electrically generated magnetic field. In the process, the magnetisation of the particles in the fluid is increased or decreased. This changes the viscosity of the fluid and the transmission mounts are made harder or softer.

With a sports car, the damping characteristics of the power unit mounts have a considerable influence on handling. When entering a corner or negotiating S-bends at high speed, for example, hard mounts significantly reduce the power lag caused by the inertia of the drivetrain, thus minimising a pushing of the vehicle's rear end. As with racing cars, in which the power unit is rigidly bolted to the body, this results in more stable and more precise handling. Disadvantages are discernible power unit vibrations and reduced practicality when driving with comfort in mind. However, these vibrations are filtered by means of softer mounts. The dynamic transmission mounts combine both of these advantages at the same time and reduce vertical power unit vibration during acceleration at full throttle. The result is more uniform and higher propulsion force on the rear axle with better traction and acceleration. The system thus ensures that the power unit is optimally in tune with the body in every driving situation, thereby contributing to improved handling characteristics accompanied by a high degree of driving and vibration comfort.

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Chassis and brakes

## **A new era of driving dynamics**

As a mid-engine sports car, the Boxster was blessed with superb agility from the cradle. The two-seater's new chassis elevates this to a level that puts even the previous Boxster's agility in the shade. The basic geometry alone created the very best prerequisites for this: 60 millimetres longer wheelbase for greater stability at very high speeds, a wider track on both axles for additional driving stability and agility in bends, larger tyres for even better adhesion to the very edge of the envelope. The proof: When equipped for optimal driving dynamics, the new Boxster S laps the Nürburgring-Nordschleife in 7:58 minutes. That is twelve seconds faster than with the comparably equipped predecessor model. Options such as the enhanced Porsche Active Suspension Management (PASM), dynamic engine suspension and Porsche Torque Vectoring (PTV) and the optional 20-inch wheels ensure the very highest driving performance.

In developing the new Boxster chassis, the Porsche engineers attached particular importance not just to driving dynamics and agility but also further enhanced the comfort and practicality areas at the same time. For example, the standard chassis has been completely redesigned with conventional gas-filled dampers. The front axle with optimised lightweight design McPherson spring struts has been redesigned. The new struts are more compact than those of the previous model, making them stiffer and more precise in maintaining the camber. A new, lightweight aluminium support bearing for the strut separates the damper and additional spring force transmission, making for even better chassis tuning in the process. The front axle cross members have also been designed to be optimised for crash strength and rigidity. Improving the anti-dive characteristics reduces the degree to which the body front section sinks during full braking and shortens the braking distance.

The rear axle has been developed based on the previous version. As with the front axle, many components have been made lighter, but without compromising stiffness and rigidity. The axle components are primarily made of aluminium. For reasons of stiffness, components exposed to high stresses are made of sheet steel and are thus lighter and more compact than comparable light metal components.

**Quick-reacting and efficient: electro-mechanical steering**

The new Boxster's further improved agility and speed of response is also down to electro-mechanical power steering, which Porsche has used for the first time in the new 911 Carrera generation. The fundamental advantage compared with hydraulic power steering is the reduction in fuel consumption by at least 0.1 l/100 km. Additional functions further enhance comfort and safety. Specific feedback is passed to the driver through the steering wheel and negative or unnecessary influences are filtered out.

Even at low speeds, active self-alignment of the steering ensures that the steering wheel is automatically returned to the straight-ahead position. When braking on road surfaces with different levels of grip, a steering input is imparted to the steering wheel in the desired direction, making it easier for the driver to stabilise the vehicle and keep it in the desired lane. A further feature is the driving dynamics steering information to the driver, providing him with transparent feedback on driving conditions.

If desired, electro-mechanical steering is available as Power Steering Plus, offering comfort-enhancing steering support between 0 and 50 km/h. Parking and reversing in particular are executed more easily and comfortably due to the reduced steering effort. The steering torque and the return to the centre position are increased at lower speeds.

**More traction, more dynamic cornering: Porsche Torque Vectoring**

Previously, the mechanical rear differential lock optimised the Boxster's traction upon demand. The new Porsche Torque Vectoring (PTV), available in conjunction with PASM, goes one better: it improves cornering dynamics from the moment the vehicle enters the curve.

PTV is the intelligent interaction between the rear differential lock with braking interventions on selected wheels, an added function of Porsche Stability Management (PSM). Basically, PTV improves the steering behaviour and steering precision of the vehicle by selectively braking the inside rear wheel. The braking torque is activated the moment the steering manoeuvre is begun. This gives the outside rear wheel excess drive torque. This differential torque causes the vehicle to experience a turning force, which provides additional assistance

to the steering wheel angle. The result is a significant increase in agility combined with a progressive steering function. When the vehicle accelerates out of the corner, the rear differential lock significantly improves the traction potential.

In terms of dynamics and driving stability, PTV is the ideal complement to Porsche Stability Management (PSM). Whereas PSM uses braking interventions to stabilise the vehicle if required, PTV uses braking interventions to enhance driving dynamics and agility. Accordingly, the braking interventions of PTV are also active when PSM is deactivated, ensuring agile and dynamic handling. The mechanical rear differential lock included in PTV has, as in the previous model, an asymmetric locking action of 22 per cent in traction and 27 per cent in propulsion.

### **Revamped PASM with enhanced sensors**

The revamping and ongoing development of the optional active suspension system PASM has tailored it even better to the Boxster's dynamics. Unlike earlier models, four additional vertical sensors on the front and rear wheels deliver even better, more sensitive control. Optimally controlled damping improves the vehicle's road grip and ensures greater driving stability, greater comfort, improved performance and shorter braking distances. As before, the driver can choose between the two programs, "Normal" and "Sport", by selecting the PASM button on the centre console. In the process, the system also behaves depending on the actual driving situation so as not to skimp on driving fun: for example, only moderate damping forces are demanded during leisurely motorway driving. When being driven with a sporty driving style, the system automatically adjusts, letting the driver sense the desired contact with the road.

### **More powerful braking system**

Enhanced performance has also been matched by a more powerful braking system – a given with Porsche. Along with new, stiffer brake callipers on the front axle, optimised brake pad control and a larger brake surface, the brake disc cooling has also been improved. New air deflection vanes on the front and rear axles ensure additional brake ventilation,

ensuring good thermal conditions at all times. Moreover, the new Boxster S also boasts larger front axle brake discs, borrowed from the 911 Carrera. For increased traffic safety and to provide a better warning for following traffic, the Boxster's brake light pulses as soon as the ABS control system is activated. As with the previous models, the powerful, race-tested Porsche Ceramic Composite Brake (PCCB) is available as an option. This entails the use of brake discs with a diameter of 350 mm on the front and rear axles for all models. As before, the brake callipers are coloured yellow; the front axle uses new six-piston callipers from the 911 Carrera.

### **New standstill management and new electric parking brake**

Like other Porsche model lines, the new Boxster models now feature an electrically operated parking brake, which can be conveniently activated using a button on the left of the dashboard. The electric parking brake can be manually activated and deactivated. But it releases automatically when moving off and when the seat belt is engaged.

The Boxster offers a new standstill management system that prevents the vehicle from moving unintentionally. If the vehicle comes to a halt on an incline as a result of braking, the auto-hold functionality is activated and the required brake pressure maintained by the PSM. For vehicles with PDK, the system also holds the vehicle if the driver allows the vehicle to coast to a stop on a gradient. As soon as the vehicle comes to a stop without any intervention by the driver, the brake pressure is maintained via PSM until the vehicle moves off again. The hold function is transferred to the new electric parking brake after five minutes, or if the system detects that the driver leaves the vehicle.

### **Larger wheels and tyres with lower rolling resistance**

The new Boxster models run on newly developed, 18 and 19-inch tyres, fitted as standard. The optional wheel range for the new Boxster comprises the new 20-inch Carrera S wheel, the 20-inch Carrera Classic wheel in a bi-colour design and the new 20-inch SportTechno wheel from the Exclusive range. All new 19 and 20-inch wheels are featured as standard with a new high-quality silver paint. Optional wheel hub covers with coloured Porsche crest are available for all wheels.

The new tyre generation has been optimised for rolling resistance, typical Porsche performance with regard to handling and braking distance, as well as weight. The reduction in rolling resistance of seven per cent compared to previous models contributes to lower fuel consumption. The handling characteristics, and thus driving fun, have been greatly improved by increasing the rolling circumference on the front and rear axles by 4 per cent compared to the previous models. Racing circuit performance and driving comfort have also been increased.

Body and convertible top

## The lightest in its class

An essential development objective for the new Boxster generation with a major impact on performance, agility and handling as well as fuel consumption and CO<sub>2</sub> emissions was a significant weight reduction. Initially however, based on the previous models, the more stringent safety and torsional stiffness requirements meant a weight increase of up to 20 kg, depending on model. Due to intelligent lightweight design, however, it was possible to reduce the actual vehicle gross weight of the new Boxster models by up to 35 kilograms compared with the previous models: The new Boxster is the lightest sports car in its class.

Kerb weight		<b>new</b>	before	$\Delta$
Boxster	kg	<b>1,310</b>	1,335	-25
Boxster PDK	kg	<b>1,340</b>	1,365	-25
Boxster S	kg	<b>1,320</b>	1,355	-35
Boxster S PDK	kg	<b>1,350</b>	1,380	-30

This is a clear illustration of the Porsche Intelligent Performance principle. The weight reduction has multiple advantages for the driver: Because it is lighter, the vehicle requires less power for day-to-day use. The result is reduced fuel consumption. When all the engine power is called upon, the new lighter Boxster models provide improved driving performance. The new Boxster S, for example, has a power-to-weight ratio of only 4.19 kg/hp, a reduction of 0.21 kg/hp. Additionally, the static torsional stiffness was increased by 40 %. Another plus point for the new Boxster body: the centre of gravity is approximately six millimetres lower.

The body of the new Boxster models has been completely redesigned. The aluminium-steel design only ever uses steel where it is indispensable. This is also made possible in car manufacturing through the use of current metal processing technology. For example, die-cast aluminium, aluminium sheet metal, magnesium and high-strength steels are used, tailored for the corresponding application area of the body, and ensuring very high levels of stiffness while minimising the quantity of material used. More than 46 per cent of the new Boxster bodyshell is made of aluminium, for example the front end, floor and rear end, the doors and both luggage compartment lids. Lightweight design is rigorously used in the interior as well, for example the cockpit holder is made of die-cast magnesium. The basic structure of the roll-over bars behind the seats is also made of aluminium, the bars themselves are of steel. They are also used to anchor the optional wind deflector.

#### **Improved aerodynamics and new rear wing concept**

The Boxster's new shape is not just more striking but offers aerodynamic benefits as well. Although the increased engine and braking performance requires a modified cooling system, the drag coefficient is a very good  $c_d = 0.30$ . The cooling air supply is now handled by just two large external air intakes. Their inflow was further improved, dispensing with the need for the previous centre radiator in PDK vehicles. The intakes are of equal size in both models; but in the case of the Boxster part of the intake is covered by a black bezel because of the reduced cooling air requirement.

It was possible to reduce the lift on both axles compared with the predecessor model, which has had translated into even greater driving stability at high speeds. A new front spoiler lip and an additional air guide element in front of the front wheel significantly reduces lift on the front axle. On the rear axle, the new rear wing and wrap-around separation edge have a decisive part in this. The wheel is optimally integrated into the rear end and extends either automatically or manually in a crescent shape. It generates more downforce than the earlier extending separation edge and offers less resistance to the airflow. The lateral extension of the wing's rear edge with the wing retracted creates defined, stable flow displacement in the area of the tail lights and further reduces rear lift and aerodynamic resistance. This functional integration of separation edges in the tail lights combines typical Porsche design, effective aerodynamics and innovative light functions.

**New convertible top without a convertible top compartment lid**

The Boxster's new design is critically influenced by the interaction between the flatter wind-screen, set further forward, and the all-new, elongated convertible top, which now extends all the way back to the vicinity of the rear wheels. Only one fixed point has remained the same in this geometry: the top of the window frame to which the convertible top is secured. Even when open, the difference with the predecessor is unmistakable: there is no longer any convertible top compartment lid, making the vehicle look lighter.

The new Boxster models' convertible top was completely redesigned. The very elongated, sporty, elegant shape is emphasised by a rear window lengthened by 120 millimetres. To reduce the interior noise compared with the predecessor model from approximately 75 decibels to 71 decibels at 100 km/h – which corresponds to a halving of the perceived level – Porsche is using a special convertible top material with acoustic characteristics in the new Boxster models. All-round fleece cushioning is also incorporated, which also results in reduced interior noise. A further positive side effect is the improved looks as a result of less conspicuous roof bows.

The basic technical concept was adopted from the previous Boxster and developed into a fully electric convertible top. The convertible top is moved by two electric motors and is secured by means of a new all-electric locking mechanism via a central locking mechanism on the front window frame. The convertible top can be opened or closed by means of a rocker switch in the centre console at speeds of up to 50 km/h within no more than nine seconds. Here too, the Boxster's speed is unsurpassed. Opening it requires no more than pressing the rocker switch, for safety reasons, closing it requires pressure on the switch to be maintained. With the new vehicle key, the hood can be operated remotely when the vehicle is stationary.

The front magnesium roof frame of the new Boxster convertible top was enlarged as part of the new roof geometry such that it covers the convertible top compartment when open. That did away with the convertible top compartment lid, resulting in a weight saving of approximately twelve kilograms.

Interior and equipment

## **New Porsche architecture now in the Boxster as well**

The Boxster's interior architecture has been completely redesigned but is familiar to any Porsche driver in its basic functions. Functionality, ergonomics and comfort are the development goals that have been implemented. The result is a sophisticated new interior design, with clean lines influenced by the Carrera GT super sports car. The centre console elevated forwards with its racing style raised gear control gives the driver the feeling of being even more integrated. The short distances between the steering wheel and the gear lever or selector make for an emphatically sporty feeling. The important functions and settings for operating the vehicle are grouped in logical clusters on the centre console. This button configuration allows quick and intuitive operation of individual functions.

The new central higher location of the standard CDR audio system with its seven-inch touch-screen display is not only very clearly visible, but also provides ready access to the many functions available. The classic three round instruments of the Boxster model line with the centrally positioned rev counter and the ignition lock to the left of the steering wheel provide the link with the familiar cockpit environment. Also new is the 4.6" VGA multi-function display in the instrument on the right. In addition to the most important on-board computer functions, the screen also features the map display for the optional PCM with navigation module, for example. The difference between the two model variants is primarily the rev counter dial, in black in the case of the Boxster, in silver for the Boxster S. The remaining instruments have a black face for all models. The standard roof lining is black as standard.

New sports seats with a five millimetre lower seat position and more legroom offer the driver and front seat passenger both greater long-distance comfort as well as good side support when being driven with a dynamic driving style. The sports seats featured as standard are mechanically adjustable fore and aft and height wise, the seat back is electrically adjustable. Compared with predecessor models, the leg room has been extended by 25 mm for more comfort and cabin space. As before, the steering wheel can be adjusted mechanically both in height and reach, with the longitudinal adjustment range being increased by ten millimetres. This enables the driver's seat to be adjusted even more individually and precisely.

The Sports Seats Plus offer even greater lateral support than the standard sports seats. They are adjusted in the same way as the sports seats but are additionally differentiated by higher seat cushion and seat back bolsters, more pronounced moulding in the shoulder area and their own stitching. The optional all-electric sports seats are 14-way adjustable and satisfy the most discerning comfort standards. In addition to what the sports seats have to offer, that includes electric fore and aft and height adjustment, electric adjustment of seat cushion depth and inclination and four-way lumbar support for driver and front passenger. They are also combined with electric steering column adjustment and Comfort Memory Package.

The top-end version of the seat range is the Adaptive Sports Seats Plus with 18-way adjustment and Memory Package. They offer additional side support thanks to electrically adjustable seat cushion and seat back side bolsters and more pronounced moulding in the shoulder area. They boast an eye-catching design and their own stitching. Heated seats are available as an optional extra, as before. The heating has three levels and is set by means of switches on the centre console. All seat versions are now optionally available with seat ventilation to increase passenger comfort by regulating heat and humidity. The seat ventilation is individually adjustable with three settings.

#### **Full programme: proven and new optional extras**

The extensive range of interior options offers many different ways to individualise the new Boxster models to one's own personal taste. For example, as an optional extra, the sports seats' centre panels and side bolsters can be covered with leather. This scope is included in the leather package along with details on the door panel, lid of the centre console storage compartment and instrument cover. There is also an extensive leather interior selection in standard or special colours, two-tone colour scheme as well as natural leather.

As before, there are various steering wheels available for the Boxster. The sports steering wheel with a smooth-leather finish steering wheel rim is featured as standard. The airbag module now matches the interior colour. With PDK models, the push button on the steering wheel can be used to change gear manually. In conjunction with all-electric sports seats

(14-way) and adaptive Sports Seats Plus (18-way), the steering wheel is electrically adjustable. A heated steering wheel is available as an optional extra. The multi-function steering wheel is available if desired, enabling audio, communication and on-board computer to be operated simply and quickly by means of buttons and drums while driving. A further optional extra is the SportDesign steering wheel, which employs alloy shift paddles in conjunction with PDK.

The Light Comfort Package creates a very special ambience with bright white lights. This is achieved by installing special light sources in the overhead console, sun visors, doors and in the luggage compartment. The LED light shows the interior design off to particular effect. The lighting in the passenger compartment can be adjusted variably. The dimming can be individually set using the instrument cluster.

#### **PCM with larger screen and extended functionality**

The optional Porsche Communication Management (PCM) system has kept pace with the new Boxster generation to achieve an improved level of development. Compared with its predecessor, the latest PCM generation with navigation module offers a number of key innovations such as the high resolution seven inch WVGA (Wide Video Graphics Array) screen, the 3-D navigational map with city and terrain model and superimposed satellite map and with map display also in the instrument cluster. This is complemented by two new assistance functions: the navigational data-based speed limit display in the PCM and instrument cluster and the visual lane information at complex junctions.

The built-in CD/DVD drive provides audio playback of audio and video DVDs as well as compressed music formats. Radio listeners have a choice of up to 48 stored channels, 42 of them freely programmable and six Best FM channels. Together with the optional TV tuner, the capacity is increased by 18 additional TV channel settings to a total of 66 entries. The AUX interface, featured as standard, has been expanded by a USB connection for various iPod® and iPhone® models as well as other MP3 players, it being possible to operate these devices by means of the PCM, the multifunctional steering wheel or voice control – available as an option in each case.

With the new PCM generation, Bluetooth® audio transmission is available in the new Boxster models. This allows audio data to be transferred or Internet radio to be received from external devices such as music players or mobile phones via the PCM Bluetooth® interface if the device connected via Bluetooth® supports this function. The universal audio interface used by the PCM has been modified: Various iPod® and iPhone® models can now be linked to the audio system via the USB connection.

### **Powerful acoustic options: Sound Package Plus and BOSE® Surround Sound System**

Porsche offers two further sound systems as an alternative to the CDR audio system, featured as standard. The optional Sound Package Plus comprises seven loudspeakers, divided into five channels, as well as an external amplifier with a total power output of 185 Watts.

The top of the range system is the optional BOSE® Surround Sound System with a total of 10 loudspeakers, fed by eight digital amplifiers channels. The highlight of the system is the concealed active subwoofer integrated in the body shell with a Class D output stage and 130 millimetre speaker diameter that emits the low frequency sound into the cavity in the vicinity of the A-pillar, making for impressive base notes. This provides a total amplifier output of 445 watts. In conjunction with the PCM, when playing audio or video DVD the system includes the impressive audio spectrum of digital 5.1 recordings.

In addition, Porsche offers a wide range of other options for the new Boxster, including

- for the first time, Bi-Xenon headlights with Porsche Dynamic Light System (PDLS)
- Two-zone automatic climate control
- Electrically-operated folding exterior mirrors including welcome home lighting
- Parking assistant front and rear with TopView

## Specifications of the Porsche Boxster\*

<b>Body:</b>	Two-seater roadster; lightweight aluminium-steel body; doors as well as front and rear luggage compartment lids made of aluminium; all-electric three-segment fabric hood; two-stage driver and passenger airbags; side and head airbags for driver and front passenger; aluminium-steel roll-over protection bar.
<b>Aerodynamics:</b>	Drag coefficient $c_d$ : 0.30 Frontal area A: 1.98 m <sup>2</sup> $c_d \times A$ : 0.594
<b>Engine:</b>	Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder; variable valve timing and valve lift (VarioCam Plus) on the inlet side; hydraulic valve play compensation; direct petrol injection; a three-way catalytic converter with two oxygen sensors per cylinder bank; 10.1 litres engine oil; electronic ignition system with static ignition current distribution (six active ignition modules); thermal management for engine and transmission cooling circuit; auto start/stop function.
<b>Bore:</b>	89.0 mm
<b>Stroke:</b>	72.5 mm
<b>Displacement:</b>	2,706 cm <sup>3</sup>
<b>Compression Ratio:</b>	12.5:1
<b>Engine Power:</b>	195 kW (265 hp) at 6,700 rpm
<b>Max. Torque:</b>	280 Nm at 4,500 rpm – 6,500 rpm
<b>Power Output per Litre:</b>	72 kW/l (97.9 hp/l)
<b>Maximum Revs:</b>	7,800 rpm
<b>Fuel Type:</b>	Premium Plus
<b>Electrical System:</b>	12-volt; three-phase generator 2,100 W; battery capacity 70 Ah, 450 A; vehicle electrical system recuperation.

\* Specifications may vary according to markets

**Power transmission:** Engine and transmission bolted together to form a single drive unit; rear wheel drive; six-speed manual transmission; seven-speed Doppelkupplungsgetriebe (PDK) as an option.

Gear ratios:	Manual transmission	PDK transmission
1 <sup>st</sup> gear	3.67	3.91
2 <sup>nd</sup> gear	2.05	2.29
3 <sup>rd</sup> gear	1.46	1.65
4 <sup>th</sup> gear	1.13	1.30
5 <sup>th</sup> gear	0.97	1.08
6 <sup>th</sup> gear	0.84	0.88
7 <sup>th</sup> gear	–	0.62
Reverse	3.33	3.55
Final drive ratio	3.89	3.25
Clutch diameter	240 mm	202 mm/153 mm

**Suspension:** Front axle: McPherson axle (optimised to Porsche requirements) with wheel-guiding strut and wheels independently mounted on transverse and longitudinal control arms; twin-tube gas-pressure dampers; anti-roll bar; electro-mechanical power steering.

Rear axle: wheels independently guided on transverse control arms with longitudinal control arms, tie rods and suspension struts (McPherson type, optimised to Porsche requirements); with coaxial vibration dampers mounted inside cylindrical coil springs; anti-roll bar.

**Brake system:** Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assist; electric duo-servo parking brake; auto hold function.

**Brakes:** Front axle: four-piston aluminium monobloc brake callipers, perforated and vented brake discs with a diameter of 315 mm and a thickness of 28 mm.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and vented brake discs with a diameter of 299 mm and a thickness of 20 mm.

<b>Wheels and Tyres:</b>	Front	8 J x 18	on	235/45 ZR 18
	Rear	9 J x 18	on	265/45 ZR 18

<b>Weights:</b>	Kerb weight, DIN	1,310 (1,340) kg
	Permissible gross weight	1,645 (1,675) kg

<b>Dimensions:</b>	Length	4,374 mm
	Width	1,801 mm
	Height	1,282 mm
	Wheelbase	2,475 mm

Track widths	Front	1,526 mm
	Rear	1,536 mm

Luggage compartment capacity	Front	150 l
	Rear	130 l

Fuel tank capacity	64 l
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<b>Performance:</b>	Top speed	264 (262) km/h
	Acceleration:	
	0 – 100 km/h	5.8 (5.7) s
	(with Sport Plus and PDK*	5.5 s)
	0 – 200 km/h	21.3 (21.2) s
	(with Sport Plus and PDK*	20.9 s)
<b>Consumption (NEDC):</b>	Urban	11.4 (10.6) l/100 km
	Extra-urban	6.3 (5.9) l/100 km
	Combined	8.2 (7.7) l/100 km
<b>CO<sub>2</sub> Emissions:</b>		192 (180) g/km
<b>Emission Category:</b>		Euro 5

Values in brackets refer to vehicles with PDK transmission.

\* Together with the optional Sport Chrono Package

## Specifications of the Porsche Boxster S\*

<b>Body:</b>	Two-seater roadster; lightweight aluminium-steel body; doors as well as front and rear luggage compartment lids made of aluminium; all-electric three-segment fabric hood; two-stage driver and passenger airbags; side and head airbags for driver and front passenger; aluminium-steel roll-over protection bar.
<b>Aerodynamics:</b>	Drag coefficient $c_d$ : 0.31 Frontal area A: 1.98 m <sup>2</sup> $c_d \times A$ : 0.614
<b>Engine:</b>	Water-cooled flat-six engine; aluminium engine block and cylinder heads; four overhead camshafts, four valves per cylinder; variable valve timing and valve lift (VarioCam Plus) on the inlet side; hydraulic valve play compensation; direct petrol injection; a three-way catalytic converter with two oxygen sensors per cylinder bank; 10.1 litres engine oil; electronic ignition system with static ignition current distribution (six active ignition modules); thermal management for engine and transmission cooling circuit; auto start/stop function.
<b>Bore:</b>	97.0 mm
<b>Stroke:</b>	77.5 mm
<b>Displacement:</b>	3,436 cm <sup>3</sup>
<b>Compression Ratio:</b>	12.5:1
<b>Engine Power:</b>	232 kW (315 hp) at 6,700 rpm
<b>Max. Torque:</b>	360 Nm at 4,500 rpm – 5,800 rpm
<b>Power Output per Litre:</b>	67.5 kW/l (91.8 hp/l)
<b>Maximum Revs:</b>	7,800 rpm
<b>Fuel Type:</b>	Premium Plus
<b>Electrical System:</b>	12-volt; three-phase generator 2,100 W; battery capacity 70 Ah, 450 A; vehicle electrical system recuperation.

\* Specifications may vary according to markets

**Power transmission:** Engine and transmission bolted together to form a single drive unit; rear wheel drive; six-speed manual transmission; seven-speed Doppelkupplungsgetriebe (PDK) as an option.

Gear ratios:	Manual transmission	PDK transmission
1 <sup>st</sup> gear	3.31	3.91
2 <sup>nd</sup> gear	1.95	2.29
3 <sup>rd</sup> gear	1.41	1.65
4 <sup>th</sup> gear	1.13	1.30
5 <sup>th</sup> gear	0.95	1.08
6 <sup>th</sup> gear	0.81	0.88
7 <sup>th</sup> gear	–	0.62
Reverse	3.00	3.55
Final drive ratio	3.89	3.25
Clutch diameter	240 mm	202 mm/153 mm

**Suspension:** Front axle: McPherson axle (optimised to Porsche requirements) with wheel-guiding strut and wheels independently mounted on transverse and longitudinal control arms; twin-tube gas-pressure dampers; anti-roll bar; electro-mechanical power steering.

Rear axle: wheels independently guided on transverse control arms with longitudinal control arms, tie rods and suspension struts (McPherson type, optimised to Porsche requirements); with coaxial vibration dampers mounted inside cylindrical coil springs; anti-roll bar.

**Brake system:** Dual-circuit brake system with separate circuits for front and rear axles; Porsche Stability Management (PSM); vacuum brake booster; brake assist; electric duo-servo parking brake; auto hold function.

**Brakes:** Front axle: four-piston aluminium monobloc brake callipers, perforated and vented brake discs with a diameter of 330 mm and a thickness of 28 mm.

Rear axle: four-piston aluminium monobloc brake callipers, perforated and vented brake discs with a diameter of 299 mm and a thickness of 20 mm.

**Wheels and Tyres:**

Front	8 J x 19	on	235/40 ZR 19
Rear	9.5 J x 19	on	265/40 ZR 19

**Weights:**

Kerb weight, DIN	1,320 (1,350) kg
Permissible gross weight	1,655 (1,685) kg

**Dimensions:**

Length	4,374 mm
Width	1,801 mm
Height	1,281 mm
Wheelbase	2,475 mm

Track widths	Front	1,526 mm
	Rear	1,540 mm

Luggage compartment capacity	Front	150 l
	Rear	130 l

Fuel tank capacity	64 l
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<b>Performance:</b>	Top speed	279 (277) km/h
	Acceleration:	
	0 – 100 km/h	5.1 (5.0) s
	(with Sport Plus and PDK*	4.8 s)
	0 – 200 km/h	17.6 (17.5) s
	(with Sport Plus and PDK*	17.3 s)
<b>Consumption (NEDC):</b>	Urban	12.2 (11.2) l/100 km
	Extra-urban	6.9 (6.2) l/100 km
	Combined	8.8 (8.0) l/100 km
<b>CO<sub>2</sub> Emissions:</b>		206 (188) g/km
<b>Emission Category:</b>		Euro 5

Values in brackets refer to vehicles with PDK transmission.

\* Together with the optional Sport Chrono Package