



PORSCHE



Macan

Press Information

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Summary

The new Porsche Macan

The sports car among compact SUVs

The new Macan is the sports car of the compact SUV segment. A Porsche through and through, the Macan is setting benchmarks in terms of driving dynamics and enjoyment – both on paved streets and off-road terrain. The Macan brings together the most powerful engine range in its class with the sporty seven-speed Porsche Doppelkupplung (PDK) and one of the finest drive systems in the world – Porsche Traction Management (PTM) in conjunction with a sporty mix of tyres, fitted as standard. Furthermore, the new Porsche model line offers a choice of three sporty chassis versions, one of which features air suspension – an exclusive in the Macan's segment.

The Macan is claiming the top spot in its segment from the very outset. The top model in the range, the Macan Turbo equipped with a 3.6-litre V6 biturbo engine and delivering an output of 400 hp (294 kW), as well as the Macan S equipped with a 3-litre V6 biturbo engine and delivering an output of 340 hp (250 kW), are defining a new performance class that competitor vehicles are yet to reach. The role of the high-torque powerhouse of the SUV trio has been assumed by the Macan S Diesel thanks to its 258 hp (190 kW) turbo diesel engine, which provides a torque of 580 Nm across a broad engine speed range. However, the Macan is not just setting the benchmark for driving dynamics – the vehicle also delivers the combination of efficiency, comfort and everyday suitability that has become a defining feature of the Porsche brand.

The sporty DNA of the Macan, as with all Porsche vehicles, is immediately recognisable in the design. Many details are reminiscent of the iconic 911 sports car and the technological benchmark 918 model, and the Sports Utility Vehicle is unrivalled in its flat and broad profile on the road. The wraparound bonnet and gently sloping roof line accentuate the overall impression of sporty elegance and powerful dynamics. Many of the design elements have been taken from Porsche sports cars and enhanced for the Macan, making it clear to see from the very first glance that the Porsche Macan heralds the first sports car in the compact SUV segment.

Extensive features, unique options

The range of equipment fitted on the Macan as standard is extensive, and includes the all-wheel drive, PDK, multi-function sport steering wheel with shift paddles, large wheels, high performance audio system and an electrically operated tailgate. The list of optional special equipment offers further exclusive highlights, such as the air suspension system: The Macan is the only vehicle in its segment to feature such a system. There is also the Porsche Torque Vectoring Plus (PTV Plus) system, which has been specially tailored to the Macan. This system distributes varying levels of drive torque to the rear wheels and works in conjunction with an electronically controlled rear-axle differential lock. The list of Porsche options includes the much sought-after dynamic high beam forming part of the Porsche Dynamic Light System Plus (PDLS Plus), which continuously adjusts the headlight level in keeping with the traffic ahead and any oncoming traffic. A choice of premium-quality audio equipment is available in the form of the optional sound systems from Burmester® and Bose.

The Macan is “Made in Germany”, produced at the Leipzig plant. Porsche has invested around EUR 500 million into the site there, expanding it into a fully-fledged plant with its own bodyshell construction facility and paint shop. The new production line is set up to produce around 50,000 vehicles per year – all manufactured with the utmost precision and to the highest level of quality. With the introduction of the Macan, Porsche is writing another chapter in its on-going success story in Leipzig.

Details

Engine, transmission and all-wheel drive

Performance and efficiency delivering maximum driving pleasure

Three six-cylinder engines, each featuring turbocharging and each working in conjunction with the seven-speed Porsche Doppelkupplung (PDK) and Porsche Traction Management (PTM) system: The capacity and drive concept of the Macan leave no doubt as to the vehicle's sporty performance. The Macan combines performance, efficiency and emotional response at a power level never before seen in this class. With consumption figures in the NEDC ranging between 6.1 litres per 100 kilometres for diesel and 9.2 litres per 100 kilometres for premium-grade fuel, all three Macan models meet the Euro 6 emissions standard.

The two biturbo petrol engines mean the Macan represents the most powerful vehicle in the compact SUV segment. The most powerful engine is the 3.6-litre engine in the Macan Turbo, which boasts a nominal output of 400 hp (294 kW) at 6000 rpm. The engine is based on the V6 engine offering three litres of displacement, which delivers 340 hp (250 kW) at 5500 to 6500 rpm in the Macan S. With these engines, the decades of experience gained by Porsche in developing sports car engines is available to be harnessed in a compact SUV vehicle for the very first time. Both six-cylinder engines have been developed by Porsche and are produced in Zuffenhausen, Germany.

Both of the V6 biturbo engines feature Porsche VarioCam Plus, a system for continuous and variable inlet and outlet camshaft control with valve-lift adjustment on the intake side, effective on one intake valve per cylinder. This system allows the engine to respond in a flexible manner to the relevant performance requirements. The result is spontaneous acceleration and exceptionally smooth running. The revised direct fuel injection (DFI) concept with multi-hole injectors and a high pressure of 200 bar enables optimum fuel distribution. The jet and taper angles have been optimised with torque, power, fuel consumption and emissions in mind.

The fact that the engines have been designed to elicit particularly sporty properties can also be seen in the integrated dry-sump lubrication, a typical feature among Porsche vehicles. This feature enables optimum engine lubrication – even in extreme driving situations. What's more, it contributes to achieving a particularly low centre of gravity while allowing the ground clearance to be increased.

Powerful and efficient: The three-litre turbo diesel engine with an output of 258 hp

With its three-litre V6 turbo diesel engine, the Macan S Diesel is a true long-distance sports car that combines an exceptional performance level with minimum fuel consumption. The 258 hp (190 kW) engine in the Macan S Diesel works in conjunction with the Porsche Doppelkupplung (PDK) to really accentuate the sporty character of the vehicle. This engine was taken from the Cayenne and has subsequently been enhanced. The high torque of 580 Nm at between 1750 and 2500 rpm allows confident acceleration in every driving situation.

The optimised common rail fuel injection system enables quiet combustion development while also allowing high turbine speeds within the turbocharger, even at low engine speeds, thereby creating a high boost pressure. This results in better volumetric efficiency, increased power and more torque.

To ensure compliance with the Euro 6 emissions standard, the exhaust system on the Macan S Diesel features an integrated selective catalytic reduction (SCR) converter, in addition to an oxidation catalytic converter and a diesel particle filter. The SCR system ensures low NOx emissions in particular.

Gear changing in true sports car style: Porsche Doppelkupplung (PDK) as standard

For the first time in a new Porsche model range, all variants of the Macan feature the high performance seven-speed PDK as standard. The advantages of this transmission design include excellent start-up performance, extremely fast gear changes without any interruption in tractive force, highly spontaneous and targeted responses to changes to the accelerator pedal, swift adaptation to a more economical or sporty driving style, low fuel consumption and outstanding shift comfort. The advantages offered by the PDK are particularly evident in off-road mode, in gear changes without any interruption in tractive force, as well as when driving up steep inclines or during descents.

The PDK's intelligent management system allows it to adapt to the required driving profile. As in virtually all Porsche vehicles that feature the PDK, there are two shift gates: On the right, the required switching level is engaged via the typical Porsche gear selector, while the left hand gate can be engaged manually, or with the standard shift paddles on the steering wheel.

Start/stop functionality and coasting for increased efficiency

The automatic start/stop function is integrated in the PDK and shuts off the engine as soon as the Macan brakes to a speed of two km/h – even when Adaptive Cruise Control (ACC) is activated. When the brake is released, the engine is restarted quickly and smoothly by the system. A symbol in the instrument cluster display shows the driver that the start/stop function is activated. The audio and communication systems remain on even when the engine is switched off, and the standard two-zone climate control continues to maintain the selected temperature. The automatic start/stop function can be deactivated and reactivated via a button in the centre console.

What's more, the PDK provides every Macan with the ability to "coast": When drivers lift their foot off the accelerator, the PDK automatically decouples the engaged gear and the vehicle coasts in neutral. The driver is alerted to the fact that the vehicle is in "coasting mode" by the rev counter dropping to idle speed. When the accelerator pedal or brake is actuated, the PDK selects the appropriate gear once again and engages the clutch. Alternatively, it is possible to trigger coasting by manually shifting beyond the highest possible gear for the respective speed. When the brake is actuated, the engine is automatically and smoothly engaged again in a matter of milliseconds, and the engine braking effect also reduces the free-wheeling distance. Engine engagement is equally swift when the driver presses the accelerator pedal. In practice, the coasting function can save up to one litre of fuel per 100 kilometres, depending on driving profile.

Optimum traction and vehicle stability: Porsche Traction Management (PTM)

Porsche Traction Management enables the all-wheel drive concept of the Porsche 911 Carrera 4 to find its way into the compact SUV segment. The result: outstanding traction and vehicle stability for the pleasure of driving with predominantly rear-wheel drive typically delivered by Porsche. At the heart of the system lies the active all-wheel drive with electronically controlled, map-controlled multi-plate clutch, complete with Automatic Brake Differential (ABD) and Anti-Slip Regulation (ASR).

With the PTM, a flexible torque split is achieved via an additional flange-mounted transmission ("hang-on" all-wheel drive system). The rear axle is always driven. The front axle receives its drive torque dependent on the locking ratio of the electronically controlled multi-plate clutch. By monitoring the vehicle status on an on-going basis, the system is able to respond to various driving situations: Sensors continuously monitor the speed of all four wheels, the

vehicle's longitudinal and lateral acceleration and the steering angle, among other elements.

For situations in which the rear-axle wheels are on a surface with a significantly lower friction coefficient in comparison to the front axle wheels (for example on ice) which would therefore cause the rear axle wheels to spin when moving off, up to 100% of the necessary torque can be transferred to the front axle. However, the rear axle is never uncoupled in these situations – instead, 100% of the torque is transferred to the front axle via the multi-plate clutch.

The hang-on all-wheel drive system is perfect for all applications, supporting the vehicle's manoeuvrability and front axle lateral support and making maximum traction possible at both axles. The result is optimum agility and clear, predictable handling thanks to controlled torque distribution with no fixed basic distribution. Optimum propulsion is assured at all times, even on the toughest road surfaces. In addition, the drive concept enables deliberate throttle-induced oversteer when Porsche Stability Management (PSM) is switched off, the Sport Plus button is pressed and the optional rear axle differential lock is installed. The ASR also reduces wheel spin. Exactly the right amount of propulsion force is transferred to the front wheels on corners to achieve optimum lateral support.

Working with the PSM system, which has been developed further, the PTM interacts with all systems to secure the appropriate distribution of power for excellent propulsion in every driving situation: on long straights, around tight corners or on surfaces with different friction coefficients. Traction is also improved by the Automatic Brake Differential (ABD) on surfaces with different friction coefficients. If a wheel is in danger of spinning, the PTM brakes the relevant wheel via the ABD and in doing so transfers more drive torque to the other wheel on the same axle.

Off-road mode: An all-terrain programme for even greater traction

Off-road mode comes as standard in the Macan, and can be activated by pressing a button in the centre console at a speed of between 0 and 80 km/h. This function switches all the relevant systems to a traction-oriented off-road programme: For example, the shift revolutions and shifting speeds are geared towards a greater level of traction, the all-wheel clutch is pre-tensioned to a greater degree in order to provide the front axle with the appropriate drive torque more rapidly, and the standard torque split between the front and rear axle as well as the accelerator pedal response are adapted to off-road conditions. What's more, when used in conjunction with the optional air

suspension chassis, the ground clearance can be increased by 40 millimetres compared with Normal Level. The maximum ground clearance in this case is 230 millimetres.

Another button in the centre console activates downhill assistance from the Porsche Hill Control (PHC) system. The PHC keeps the vehicle speed constant during descents, and can be adjusted to between 3 and 30 km/h.

Sport button as standard for enhanced performance

All Macan models are fitted with a Sport button as standard, which can be found on the centre console to the left of the gear selector. When this button is pressed, the electronic engine management system addresses the engine even more directly: A touch on the accelerator pedal results in a noticeably swifter response from the engine, the rev-limiter is set to a more specific level and the engine dynamics take on a motorsport feel. In addition, the PDK transmission enables the shift points to be moved towards a higher and thus even sportier speed range. The response times are shorter, while the gear changes are tighter and instantaneous, particularly for double-clutch downshifts. The engine sound also becomes more resonant.

Sport Chrono package as an option for quicker sprints and faster laps

With the optional Sport Chrono package fitted, performance can be enhanced even further at the touch of a button. The package enables the chassis, engine and transmission to be tuned to an even sportier level, accompanied by a sound that is even more emotive. The Sport Chrono package is characterised by the analogue and digital stopwatch on the dashboard, as well as the additional Sport Plus button in the centre console. Another element of the package is the performance display on the optional Porsche Communication Management (PCM) system, which provides information on the total driving time, distance travelled around the current lap or the time taken for each lap, for instance.

“Sport Plus” offers an even sportier tuning of the engine features and chassis, and switches the gear shifting strategy to racetrack mode. The PDK is now configured for very short response times, optimum shift points and torque magnification during gear changes for maximum acceleration, ensuring the vehicle delivers an even sportier response. What’s more, the idle speed is set to be increased for the Macan S and Macan Turbo, and the rev-limiter

set to a more specific level.

Also included as a component of the Sport Chrono package is Launch Control, which enables a level of acceleration similar to that required when moving off in a race. The time advantage gained in a standard sprint from zero to 100 km/h is 0.2 seconds for all models. “Launch Control” enables improved lap times and a better spread between comfort and sportiness when it comes to the vehicle handling to achieve a boost in driving pleasure.

The latest technology for maximum efficiency

Driven by a need to extract maximum performance from the existing fuel reserves, efficiency has always been at the heart of successful sports car design. With its drive technology and efficiency technologies, the Macan stands in the finest tradition of sports cars, putting it at the top of its segment. Alongside the turbo downsizing engines and the PDK fitted as standard, further drive technologies contribute to the vehicle’s low fuel consumption level. These include, for example, the automatic, enhanced start/stop function with engine switch-off when stopping, the coasting function, electrical system recuperation and thermal management. Electrical system recuperation is used to charge the battery more intensely during the braking and overrun phases. Restricting the charging current of the generator when the battery is fully charged in turn reduces the load on the combustion engine during acceleration phases because the engine does not have to use as much power to charge the battery.

The intelligent thermal management system in the Macan manages the temperature of the engine and transmission to reduce friction losses during the warm-up phase following a cold start. To do this, the thermal flows are managed in a targeted manner and the different coolant circuits are switched on gradually when needed. When adopting a sporty driving style, the thermal management system also reduces the temperature level, supporting the demand for high performance by optimally filling the cylinders.

Chassis, brakes and tyres

A sporty all-rounder for on-road and off-road driving

The Porsche Macan is the sports car of the compact SUV segment and is defining completely new standards in the field of driving dynamics, boasting chassis technologies taken directly from the 911. The mechatronic systems include the Porsche Active Suspension Management (PASM) adaptive damper control, the only air suspension system in this class and Porsche Torque Vectoring Plus (PTV Plus). These technologies are forming the basis for providing the handling characteristics typical of a sports car in a compact SUV vehicle. These characteristics also include the level of active safety: By fitting the new multi-collision brake, Porsche is further enhancing the level of performance offered by the brake system.

All of the chassis components, the running-gear setup and the brakes on the Macan allow it to take on an exclusive position as the sports car in its class. No other vehicle in this market segment can drive on the road with such precision and stability, and especially not at higher speeds. The basic geometry of the Macan creates the best conditions for achieving these benchmarks. The low centre of gravity and the wheel base of 2807 millimetres, plus the front track width of 1655 millimetres and 1651 millimetres at the rear provide enhanced driving stability, particularly when cornering.

The road performance of the Macan is supplemented by its outstanding off-road abilities. The ramp angle of 17.1 degrees (with air suspension at "High Level I": 19 degrees), ground clearance of 198 millimetres (230 millimetres), an approach angle of 24.8 degrees (26.6 degrees) and a departure angle of 23.6 degrees (25.3 degrees) also present a consistent message: Overall, the features of the Macan meet the exact requirements of many SUV customers, i.e. the perfect performance on the road plus the special reserve capabilities embodied by all-wheel drive and off-road performance.

Three chassis versions for the Macan

Porsche has developed three chassis versions for the Macan. The standard steel-spring design of both the Macan

S and Macan S Diesel already meets stringent requirements in terms of performance, driving pleasure, off-roading capabilities and comfort. The consistent lightweight construction philosophy embodied by the aluminium axles and chassis components contributes to driving dynamics and comfort. The front axle is based on a five-link design while the rear axle is formed by a trapezoidal-link design. At the rear axle, the separate arrangement of springs and dampers on the wheel carrier improves ride comfort and handling. This arrangement is also responsible for the large loading width of the luggage compartment. To reduce unsprung weight, the trapezoidal link, wheel carrier and front link are all made from aluminium. The axle support is made from high-strength steel, offering torsional rigidity and flexional resistance, and is elastically attached to the body via four large rubber bearings. The torsional rigidity and flexional resistance selected ensure both dynamic handling and exceptional ride comfort.

The second chassis version – featuring Porsche Active Suspension Management

The second version of the Macan chassis is a combination of the steel-spring design and the PASM system, which comes as standard in the Macan Turbo top model. The PASM can be selected as an option for the Macan S and the Macan S Diesel. Combining the steel-spring design and PASM allows the vehicle to fulfil high standards for long-distance comfort, performance and agility even more successfully.

The electronically controlled Porsche Active Suspension Management (PASM) shock absorber adjustment system increases driving pleasure, safety and comfort. The system actively and continuously regulates the damper force on the front and rear axles. Depending on the road condition and driving style, PASM optimally reduces body movements – on soft, gentle stretches, when driving off-road and even when adopting a dynamic driving style with strong acceleration and braking phases.

To do this, the system uses sensors to record parameters such as body acceleration and damper speeds. Signals such as lateral acceleration, steering angle, brake pressure and engine torque are also taken into account. Based on the driving situation determined by the system, the PASM control unit then applies the optimum damping force. Depending on their preferences and requirements, drivers can also choose between three maps: “Comfort”, “Sport” and “Sport Plus”.

Top-of-the-range chassis featuring air suspension: A first in the market segment

The third version of the Porsche Macan chassis, and exclusive in this vehicle segment, is the optional air suspension including levelling system, height adjustment and PASM. This option offers the best possible spread of driving dynamics and comfort, and satisfies even the most stringent requirements in terms of comfort, sportiness and performance.

In comparison to the steel-spring design, the Macan with air suspension sits 15 millimetres lower at Normal Level and, due to the associated lower centre of gravity, it offers both increased driving dynamics and improved comfort. The air suspension maintains a consistent vehicle position at all times, automatically and regardless of the load distribution. The fully load-bearing air suspension and adjustable damper system with continuous, situation-dependent damper force adjustment effectively reduce body movements.

The ground clearance can be adjusted to three different levels as required: "High Level I", "Normal Level" and "Low Level". In "High Level I", the vehicle sits 40 millimetres above "Normal Level", with a maximum ground clearance of 230 millimetres. This option is activated via the off-road button and can be used at speeds between zero and 80 km/h.

Pressing the PASM button or the Sport Plus button lowers the vehicle by 10 millimetres to "Low Level". Doing so allows for a maximum ground clearance of 180 millimetres. Using the "Low Level" setting in combination with Sport Plus mode gets the maximum performance from the Macan, as the centre of gravity is even lower and the PASM is optimised for these conditions.

To allow the luggage compartment to be loaded easily, vehicles fitted with air suspension can be set to loading level, which lowers the rear end to 50 millimetres below "Normal Level". The Macan is the first Porsche model to offer this feature. Loading level is activated by pressing a button in the luggage compartment.

Multi-collision brake: A new cornerstone of active safety from Porsche

The brakes of the Porsche Macan match the vehicle's exceptional performance level. In line with the usual high standard set by the brand, the Macan is leading the way with the most powerful braking system in its market segment, supplemented by the new multi-collision brake safety system.

Around a quarter of all accidents resulting in personal injury are “multi-collision accidents”, where a second collision follows the first. The multi-collision brake system automatically brakes the vehicle involved in a crash to reduce the residual kinetic energy inherent following the initial collision. The multi-collision brake is triggered when the airbag sensors detect a primary collision, at which point the system initiates maximum braking. The Porsche Stability Management (PSM) system limits this action to a maximum negative acceleration of 0.6 g, thereby ensuring that the driver can maintain control of the vehicle even in the event of automatic braking.

The driver can override the multi-collision brake system at any time. If the system detects that the driver is accelerating, the automatic multi-collision brake is deactivated. The same applies if the driver initiates a full braking manoeuvre at an even higher rate of deceleration. As a general rule, the assistance system brakes until a residual vehicle speed of 10 km/h is reached. This residual speed can then be used to drive to a safe location after the braking action.

On the front axle, the Macan features six-piston fixed-calliper brakes with aluminium mono-bloc brake callipers. In the Macan S and the Macan S Diesel, the brake callipers press on brake discs with a diameter of 350 millimetres, while the brake discs in the Macan Turbo have a diameter of 360 millimetres. On the rear axle, all models feature combined floating calliper brakes with integrated electric parking brake. The rear brake discs for the Macan S and Macan S Diesel have a diameter of 330 millimetres and the rear brake discs of the Macan Turbo have a diameter of 356 millimetres.

Option: Porsche Ceramic Composite Brake (PCCB)

The Porsche Ceramic Composite Brake (PCCB) is available as an option for all models, and can be fitted to the Macan Turbo starting from 20-inch wheels and in all other models from 19-inch wheels. The brake can withstand even the toughest demands. The key advantage offered by this brake is the considerably lower weight of the brake discs, which are around 50 percent lighter than brake discs with the same design and dimensions made from grey cast iron. Alongside enhanced driving performance and a reduced fuel consumption level, the lower brake disc weight reduces the vehicle's unsprung weight and rotational masses, which enhances road contact, handling, and driving and ride comfort on uneven roads in particular.

The brake discs are made from carbon fibres that are specially treated in a high-vacuum process at approximately 1700 degrees Celsius in order to obtain a ceramic molecular structure. This process significantly increases the hardness of the carbon fibres and leaves them much more resistant to temperature than brake discs made from grey cast iron. The low level of thermal expansion exhibited by the PCCB prevents deformations when under intense strain. Furthermore, the brake discs are non-corrosive and allow for an enhanced level of acoustic insulation. The brake responds even quicker and with even greater precision, with considerably less pressure needing to be applied to the brake pedal. The high level of resistance to brake fading achieved by the PCCB is particularly advantageous when braking at high speeds.

The electric parking brake offers greater comfort and safety when parking the vehicle. The parking brake is released automatically when moving off. Another feature making its debut is the hold function, which is activated by applying pressure to the brake pedal.

Option: Porsche Torque Vectoring Plus (PTV Plus)

The Porsche Torque Vectoring Plus (PTV Plus) system has been specially tailored to the Macan in order to improve driving dynamics and driving stability. The PTV Plus uses a variable standard torque split at the rear wheels combined with an electronically controlled rear axle differential lock. In response to the steering angle, steering speed, accelerator pedal position, yaw rate and vehicle speed, the PTV Plus improves steering behaviour and steering precision through targeted brake interventions on the inside rear wheel to enhance agility. This gives the outside rear wheel a greater propulsion force and enables an additional turning impulse in the steered direction. The result is direct and dynamic steering into the bend. PTV Plus improves agility and steering precision at low to moderate vehicle speeds. The system also offers enhanced vehicle stability at high speeds, when cornering at speed and in case of spinning wheels. In combination with the Porsche Traction Management (PTM) and Porsche Stability Management (PSM) systems, PTV Plus ultimately provides improved traction on different road surfaces, and for wet and snow conditions, thanks to the rear axle differential lock. The same applies when accelerating out of bends, moving off and on roads with different friction coefficients on the left and right, for instance. The PTV Plus also makes a positive impact when the Macan is taken off-road: On loose ground, rear wheel spin is reduced through targeted locking and braking interventions.

Mixed tyres like those seen on a sports car – enhancing the look and functionality of the vehicle

The use of tyres on the Macan is typical of a sports car: The vehicle is designed to use mixed tyres with different dimensions at the front and rear axle. The mixed tyres offer advantages in terms of driving dynamics as well as emphasising the sports car look of the Porsche Macan. In combination with the all-wheel drive system designed for tail-heavy vehicles, the wider tyres on the rear axle increase traction and enhance driving stability. The front tyres enable sporty yet precise steering manoeuvres, thereby contributing to the agility of the vehicle, too. Overall, the mixed tyres allow for more flexible tyre tuning and, by helping to achieve excellent rear-end stability, contribute to the Macan's exceptional driving performance.

235/60 R 18 (front) and 255/55 R 18 (rear) tyres are standard equipment for the Macan S and Macan S Diesel, while the Macan Turbo features 235/55 R 19 (front) and 255/50 R 19 (rear) tyres. Key objectives when developing the tyres included optimum vehicle stability and driving pleasure, best-in-class braking distances, low rolling resistance and a good balance of comfort and performance with the help of the large tyre diameter.

The Macan S and the Macan S Diesel are fitted with the 18-inch Macan S wheel as standard, while the 19-inch Macan Turbo wheel is available as standard for the Macan Turbo. In addition to these options there are six other wheel designs to choose from, ranging from 18 to 21 inches in size. The 18-inch wheels are lightweight forged wheels, while the 19 and 20-inch wheels are produced using flow forming lightweight design technology. The 21-inch wheel is a lightweight forged wheel.

The standard Macan S and Macan Turbo wheels in the five double-spoke design are themselves very attractive and emphasise the particular qualities of the individual models. The multi-spoke design of the Macan Design wheel offers a combination of elegance and sportiness. The view of the brakes offered by the Macan Sport Design wheel, which also features a multi-spoke design, helps to further distinguish the models from one another. The motorsport-inspired RS Spyder Design wheel is particularly eye catching. The most sporty alternative is the 21-inch, multi-spoke 911 Turbo Design wheel, which perfectly accentuates the Macan's broad, muscular profile.

The following tyre sizes are used in combination with the 20-inch and 21-inch wheels:

- 20-inch: 265/45 R 20 at the front and 295/40 R 20 at the rear.
- 21-inch: 265/40 R 21 at the front and 295/35 R 21 at the rear.

All Porsche Macan models come with Tyre Pressure Monitoring (TPM) as standard. The TPM system increases driving safety and comfort by warning the driver when the tyre pressure is too low or if it detects any rapid drops in pressure. Sensors in all four of the drop-centre rims constantly monitor the air pressure. The driver can check the pressure of all four tyres on the 4.8-inch colour monitor in the central instrument cluster.

In designing the chassis, particular focus was placed on achieving an intelligent lightweight construction. As a result, lightweight forging technology has been used to produce the 18-inch standard wheels on the Macan S, thereby saving around 4.6 kilograms compared with conventional cast wheels. The effect is enhanced driving comfort and optimised driving dynamics thanks to the reduced unsprung weight. To achieve these ambitious goals for the weight of the chassis, the requirements in terms of precision during production have been further increased. The output shaft is connected with the rear-axle differential via a plug connection, rather than bolted on, as is usually the case. The chassis weighs one kilogram less as a result.

Inherited from the 911: Electro-mechanical power steering

The Macan has adopted yet another cornerstone from the family of Porsche sports cars: electro-mechanical power steering. The electro-mechanical power steering system – the first of its kind in a Porsche SUV – allows the Macan to be driven precisely with the responsiveness typical of the Porsche brand in all driving situations. The direct steering ratio is only possible where mixed tyres are fitted. The steering system also offers a number of fuel consumption benefits: In comparison to conventional hydraulic steering systems, electromechanical steering saves up to 0.1 litres of fuel per 100 kilometres because the system only requires energy for steering.

An important effect of the system is the fact that the Macan can be fitted with a lane departure warning system that works with the electro-mechanical power steering and controls the active steering interventions when they are necessary. As a result, the electro-mechanical power steering system boosts convenience and safety. Targeted feedback is provided to the driver via the steering wheel and disturbances are filtered out. Even at low speeds, active steering correction causes the steering wheel to return to the central position, automatically and in a manner that is barely perceptible. When braking on roads with different friction coefficients on the right and left, a steering impulse is sent to the steering wheel in the direction to be steered, helping the driver to stabilise the vehicle and remain in lane.

Power Steering Plus is available as an option to provide additional levels of precision and comfort. At high speeds, steering is tight in the accustomed manner. At low speeds, greater steering assistance is provided for particularly effortless manoeuvring and parking.

Design and body

Deeply rooted in Porsche's legacy of sports cars

Many details of the design and lightweight concept of the Macan reveal the vehicle's sports car heritage. Even when stationary, the Macan's proportions and lines highlight what the vehicle has to offer in terms of performance. The side window graphics, the roof line reminiscent of a Coupé and the rear wings all take their cue from the 911. The Macan also adopts the current Porsche design DNA, which propelled the 918 Spyder further forward. The result can be summarised in two words typical of a sports car: broad and low.

The impressive, assertive front of the Macan is a distinctive component of the design. The large air intakes are typical of Porsche and highlight the performance class to which the brand's vehicles typically belong. The focus at the front end of the Macan is concentrated in the middle, producing a sporty effect and giving the vehicle a concentric, confident look. The Macan Turbo differs from other models through its special, even more dynamic front end. The spoiler lip on the vehicle follows the style of the 918 Spyder. Stylistic elements known as C-blades fitted in the side air intakes accentuate the sporty look of the vehicle and provide a sophisticated aerodynamic response.

The wraparound bonnet creates an impressive design detail, enclosing the headlights and extending down to the wheel arches. The imposing size of the bonnet and its precision lines running to the front of the vehicle give the Macan a broad and powerful appearance, while the seamless surface of the bonnet presents a clean front to the vehicle. The Macan's concentration on the road is particularly evident when viewed from the front. The shape and position of the headlights, which are typical of Porsche, are based on the basic design of the headlights on the 918 Spyder and underline the sporty, confident look of the Macan.

A side view reminiscent of the 911 and 918

The side view with its sporty sloping roof line creates a sharp profile and emphasises the dynamic nature of the vehicle, while the design lines running to the rear of the vehicle accentuate the broad, sculpted wings. Together with

what are known as window graphics – the edges of all lateral glass surfaces – and the shape of the D-pillar, these design lines are a nod to the design of the 911.

A further design highlight of the side view, and another means of customising the vehicle, are the sideblades at the bottom of the front and rear doors – dynamically formed inserts that are available in different materials as an option. The design of these sideblades is reminiscent of the lower door seams on the 918 Spyder, as is the front door entry guard. Combined with the sophisticated door handles, this makes the doors appear narrower and the sides significantly more sporty and streamlined.

On the Macan S and Macan S Diesel, the sideblades are painted in Lava Black as standard. The Macan Turbo features sideblades painted in the same colour as the exterior (optional for Macan S and Macan S Diesel), adding to the classic elegance of its look. Sideblades in Genuine Carbon, available for all models as an option, add extra emphasis to the Macan's sporty character.

The front door entry guards are constructed in aluminium on all models as standard and feature the specific model name ("Macan S" or "Macan Turbo").

A further striking design detail of the Macan is its continuous side sill. Together with the long black roof spoiler, this feature adds to the vehicle's flowing design. The mixed tyres, which are up to 265 mm wide on the front axle and 295 mm wide on the rear axle, alongside wheels of up to 21 inches, also underline the Macan's sporty intentions.

The rear view: A clear design for a broad look

With its subtle lines and harmonious curves, the rear end is a fusion of sportiness and elegance. It has been consciously designed as a large, mainly undisturbed area to give the vehicle a broader look. To maintain this "clean look", the switch for the powerlift tailgate has been concealed in the foot of the windscreen wiper, and the number plate is located in the lower rear area.

The lower rear area surrounding the number plate holder has been kept black. On the Macan Turbo, this area is painted in the same colour as the exterior. On all models, the harmoniously integrated rear diffuser is flanked on

both sides by twin tailpipes – round on the Macan S and Macan S Diesel and square on the Turbo. All models are available with sport tailpipes made from chrome-plated stainless steel as an option.

See and be seen: The variable lighting systems

The lighting systems and design of the Porsche Macan form a unified whole, delivering exceptional functionality. The distinctive features at the front of the Macan include the generously proportioned main headlight modules, the daytime running lights and the arrangement of the fog lights. The tail lights with their slim design underscore the vehicle's sports car character, making the Macan unmistakable even in the dark.

Projector-type halogen main headlights are fitted as standard on the Porsche Macan. Bi-Xenon main headlights are also available as an option (fitted as standard in the Macan Turbo). Also featuring projector type technology, these lights include static and dynamic cornering lights (Porsche Dynamic Light System [PDLS]). The dynamic cornering light swivels the main headlights towards the inside of a bend, depending on the steering angle and driving speed; the static cornering light activates the auxiliary headlights to illuminate the bend, for example when performing turning manoeuvres.

Control of the driving light is speed-sensitive. This light adjusts the range and contour of the dipped beam at higher speeds for enhanced illumination of the road, for example when travelling on motorways. By dimming the upper light beam in conditions where there is poor visibility, such as fog, the bad weather light can reduce reflection, meaning oncoming drivers are less likely to be dazzled.

The Porsche Dynamic Light System Plus (PDLS Plus) can enhance lighting technology, offering two additional functions: The dynamic high beam variably and continuously adjusts the lighting range in keeping with oncoming traffic and vehicles travelling ahead. When approaching a crossing, the junction assistant activates the static cornering light on the left and right-hand sides, making the beam of light broader. This improves illumination of the area directly surrounding the vehicle, thereby enhancing safety for both the driver and other road users.

The look of the vehicle is further enhanced by the daytime running lights featuring four-point LED technology, which is used in the Bi-Xenon main headlights on the Macan Turbo. This technology has previously been used on other

Porsche Turbo models and will shape the lighting design of all Porsche models in the future. The daytime running lights on the Macan S and Macan S Diesel feature halogen technology. Fog lights are also included as standard for all Macan models to ensure safety on the road, even in poor weather conditions. The Macan S and Macan S Diesel have round halogen fog lights integrated in the front end. On the Macan Turbo, these lights feature LED technology.

The tail lights are implemented in full using LED technology, and are similar in design to those in the Porsche 918 Spyder. The lights give a highly sophisticated and broad appearance, further reinforcing the sports car characteristics of the Macan. The 3D design is particularly striking and makes the Macan unmistakable – by day and by night: The circular brake light emphasises the slender details of the horizontal tail light, simultaneously accentuating the direction indicators. The 3D light effect, which is just as impressive by day as it is by night, ensures that the vehicle is easily recognisable.

The body: An intelligent lightweight construction delivering a high level of passive safety

The sports car requirements of the Macan played a significant role in the design of the body. The rigidity of the front end is based on the high standards set by the 911 and the Cayman. Thanks to the addition of more bars, this level of rigidity enables optimum driving agility and stability. Another good example is provided by the selective use of materials to achieve a lower centre of gravity: The body platform and doors are manufactured from high and super-high strength lightweight steel sheets, and the bonnet and rear lid are made of aluminium.

By delivering ideal body rigidity values, the consistent lightweight steel construction makes a key contribution to safety. All elements of the vehicle body shell are designed and connected in such a way that, in the event of a crash, the vehicle structure deforms in a defined manner, thus absorbing the energy from the crash. In addition, super-high-strength steel reinforcements protect occupants in the event of a side impact. High strength and clearly defined deformability are two properties that also come together in the multi-phase steels used.

The Macan is equipped with two full-size airbags as standard for the driver and front passenger, which are supplemented by the Porsche Side Impact Protection System (POSIP). The system comprises side airbags in the front seats, curtain airbags across the entire roof frame and the side windows from the A-pillar to the C-pillar, as well as a side impact protection device in the doors. Two side airbags can also be provided in the rear as an option.

Two additional sensors near the bumper help to detect head-on collisions. A sensor cluster comprising acceleration and yaw rate sensors detects if the vehicle is about to roll over and activates the curtain airbags and the seat-belt pretensioner.

New: Aluminium bonnet with integrated air duct

A new feature on the Macan is the bonnet with a raw air duct integrated on the underside for ventilating the engine. Two channels direct the incoming air from the front air intakes in the direction of the two turbochargers. These channels are precisely dimensioned to meet the air requirements of the drive motor. The decision to integrate the raw air duct was prompted by a number of factors: the space conditions in the engine compartment, additional savings on weight, the need for the bonnet to sit as low as possible and stringent pedestrian protection requirements.

The Macan impresses with innovative solutions even in hidden places. For example, the supporting plate and guide rails of the front armrest are finished in magnesium. Furthermore, all insulating materials used in the Macan are made from a mix of aluminium and butyl, which is a more lightweight alternative to bitumen, the most common insulating material. Battery and vehicle electrical system supply lines are made from aluminium, which delivers a weight saving of 3.5 kilograms compared to copper.

With a width of 1923 millimetres (excluding the exterior mirrors) and a height of 1624 millimetres, the Macan is a compact and dynamic vehicle. The low centre of gravity and wheelbase of 2807 millimetres provide enhanced driving stability, particularly when cornering. These features, combined with a length of 4681 millimetres (Macan Turbo: 4699 millimetres), mean that the Macan has the sportiest proportions in its segment. Another distinctive feature of the Macan is the comparatively short overhangs of 924 millimetres at the front (Macan Turbo: 942 millimetres) and 950 millimetres at the rear, which also emphasise its sports car character. The luggage compartment volume is 500 litres, which expands to 1500 litres when the back seats are folded down fully.

Sports car aerodynamics with active radiator shutters

No compromises have been allowed when it comes to the aerodynamics either: The underbody shield keeps drag to a minimum by optimising the air flow under the vehicle and reducing turbulence. Covering the underbody also

enables the air flowing by to be directed to certain areas in a targeted manner. As a result, the downforce value at the rear axle is negative at 0.01 – guaranteeing high lateral stability even when changing lanes quickly. Depending on the driving situation and cooling requirements, the radiator shutters on the Macan can also be closed – a function that is controlled by the engine management system.

This serves to regulate the air volume that flows through the air intakes. Closing the shutters improves aerodynamics and ensures a low level of drag, thus resulting in lower fuel consumption.

Light and wide at the driver's command: The Panoramic Roof System

As important as it is for the driver to focus on the road, every passenger appreciates being able to glance up to the sky. This is particularly true thanks to the optional, two-part Panoramic Roof System on the Macan, as the front glass element can be uncovered and opened electrically and an electrical roll-up blind dims the entire pane of glass when required.

Interior and equipment

A sporty seat position in an elegant setting

The passenger compartment of the Porsche Macan picks up on the current Porsche sports car design, delivering a premium look. For an SUV, the Macan has a sporty seat position and a more steeply inclined steering column to give it a sports car feel. The extensive range of equipment fitted as standard allows for a high degree of individualisation. For example, a Burmester® sound system is available for the Macan – a feature previously unseen in this segment.

The focus on agility and breadth continues into the Porsche Macan's interior. Sophisticated lines, precise transitions and high-quality workmanship create a harmonious fusion of sportiness, quality and elegance. From the low front seats, the sloping centre console and the display and operation concept through to the extensive range of customisation options, the interior offers both a sense of familiarity and striking new features.

The cockpit features all the character familiar from a sports car. Three round dials with a centrally positioned tachometer combine to form the instrument cluster. A gear indicator within the tachometer tells the driver which gear has been engaged by the Porsche Doppelkupplung (PDK). A high-resolution, 4.8-inch VGA multifunction display is contained in the right-hand dial. In addition to the most important on-board computer functions, this feature also displays the maps for the optional Porsche Communication Management (PCM) system with navigation module. As you would expect, the ignition lock is positioned to the left of the steering wheel – as is customary on Porsche models.

The standard multi-function sports steering wheel is a particularly striking feature, the design of which is completely new and based on the 918 Spyder. The ergonomically positioned shift paddles and additional multi-function buttons fitted as standard for the telephone, radio and on-board computer ensure that drivers' hands are free to stay on the steering wheel and their concentration remains on the road. Selecting one of the trims from the range of customisation options can lend a striking touch – in each case, a heated steering wheel is also included.

The forward-sloping centre console with the high-set gear selector typical of racing cars draws the driver even further into the cockpit. The buttons for the most important functions are clustered in logical groups on the centre console, allowing for simple and intuitive operation of individual functions.

Standard equipment with Piano Black package and comfort seats

Even the standard equipment on the Macan S with the Piano Black interior package and the comfort seats with Alcantara seat centre conjures up a sense of sportiness and quality. The Macan Turbo is fitted with adaptive sports seats as standard, including the 18-way power seats with memory package in leather and the brushed aluminium interior package. In addition, all models are available with the Dark Burl Walnut and Carbon trims as an option. The Lined Oak is just one of the exclusive optional trims available. Each trim is combined with silver accent strips.

A leather interior is available for all models. A leather package is also available (fitted as standard in the Macan Turbo) to provide a further customisation option. The following interior components are also fitted in leather: the upper part of the dash panel, the cover for the storage compartment in the centre console, the seat centres, the inner seat bolsters, the fronts of the headrests, the door panel armrests and the front and rear door handles.

The seat height, seat cushion, backrest angle and the longitudinal position of the standard electrical 8-way comfort seat can be adjusted to suit the driver. As a special feature, the front headrests can be adjusted both vertically and longitudinally. A comfort memory package (14-way) is also available as an option for the driver and front passenger. The adaptive 18-way sports seats are available as a further option for the driver and front passenger, and are fitted as standard in the Macan Turbo. The optional front seat ventilation offers even greater seating comfort, with three-stage control of the ventilation for the seat surfaces and backrests, independently adjustable for both the right and the left seat.

The rear seat system provides space for up to three passengers. The rear seat backrests are split 40:20:40 and can be folded down separately, providing plenty of room for all items of luggage in the luggage compartment.

Comfort on demand: Two-zone and three-zone climate control

Fitted as standard, the Macan features two-zone climate control with separate temperature and air volume adjustment for the driver and front passenger, as well as automatic air-circulation control including an air-quality and humidity sensor. In addition, the optional three-zone climate control is able to cover the rear of the vehicle. The temperature selected for the front left and right of the vehicle are as used as a pre-setting. These temperatures can then be adjusted individually in three levels. The “Sync” button allows the temperature to be synchronised across the entire vehicle.

Light comfort package with ambient lighting

The optional light comfort package provides pleasant illumination in the vehicle interior. All lights are implemented using LED technology. The package comprises dimmable ambient lighting in the door panels and overhead console, front and back footwell lighting, reading lights in the rear of the vehicle, plus ambient lighting in the exterior mirrors. The make-up mirrors in the sun visors on both the driver’s and passenger’s side are also illuminated.

Audio systems and Porsche Communication Management (PCM)

Located high up and in the centre of the console, the CDR Plus audio system, which is fitted as standard and features a high-resolution, 7-inch colour touchscreen display, is clearly visible and offers convenient access to a whole host of functions. Features include a universal USB interface for connecting external storage media and end devices and 11 loudspeakers delivering a total output of 235 watts.

The Porsche Communication Management (PCM) system, which is included as standard in the Macan Turbo, comprises all of the stated CDR Plus functions. In addition, it offers a navigation module with a hard drive, which boasts a capacity of 40 gigabytes, enough for up to 5000 MP3 files, as well as map data for most European countries, including a perspective map view and 3D navigation map.

Interior sound: Bose surround sound system

The optional Bose surround sound system features 14 loudspeakers, including a 200-watt active subwoofer, a total

of nine amplifier channels and a total output of 545 watts. The system taps into the sound spectrum of 5.1 digital surround sound recordings. AudioPilot noise compensation technology guarantees a consistent, balanced aural experience, whatever the driving conditions. Thanks to the Centerpoint® 2 and SurroundStage technologies from Bose, the system is able to play stereo sources in surround mode.

Burmester® sound system for a virtually perfect sound

As the top-of-the-range option when it comes to sound systems, Porsche is also offering a special sound system in the Macan that was developed and made in Germany in cooperation with Burmester®. Building on the feedback acquired from the systems featured in the Panamera, Cayenne, 911 and Cayman models, this sound system achieves a total output and sound quality that are unparalleled in this class of vehicle. The system comprises 16 individually controlled loudspeakers, including an active subwoofer with a 250-millimetre diaphragm diameter and an integrated 300-watt Class D amplifier. The total system output is more than 1000 watts.

Precise playback even at very high levels is achieved thanks to sophisticated, high-end components such as special ribbon tweeters (Air Motion Transformer [AMT]) and a total speaker diaphragm surface of over 2400 cm² that delivers a powerful sound performance. Several preset sound setups allow for a first-class music experience – a sound conditioner is used to precisely adjust the sound to the relevant driving situation in real time based on microphone measurements.

Online option: Aha Radio app

Online features can be accessed in the PCM using the Aha Radio app, available free of charge for Apple and Android devices. This app facilitates use of content such as online radio with personalised web-based music, news feeds, podcasts and audio magazines, as well as weather information and integrates social networks such as Facebook or Twitter. The results of a Google “Points of Interest” search can also be adopted as the navigation destination.

Perfect connection: Porsche Car Connect (PCC)

As a further option, Porsche Car Connect (PCC) makes it possible to access information and control individual

vehicle functions remotely using a smartphone. Corresponding apps are available for both Apple and Android devices. Amongst other functions, the PCC can be used to call up vehicle data and display the vehicle's position, as well as lock the vehicle by activating the central locking system.

If stolen, a vehicle can be located with the help of the Porsche Vehicle Tracking System (PVTS). A separate contract with a service provider recommended by the relevant Porsche partner is required to use Porsche Car Connect. Porsche Car Connect can be supplemented to include the Porsche Vehicle Tracking System Plus (PVTS Plus). This system delivers additional safety measures for the PVTS, such as a plated mounting, shear bolts and two driver authentication keys.

Assistance systems

Intelligent support for the driver

There is a wide range of assistance systems available for the Porsche Macan. These include the lane departure warning system and lane change assist system, both of which enhance the level of active safety and driving comfort. The reversing camera facilitates reverse parking and manoeuvring and also assists with hitching a trailer. Furthermore, Adaptive Cruise Control (ACC) supports the driver in dangerous situations in conjunction with Porsche Active Safe (PAS).

Camera-based: lane departure warning and lane change assist systems

The optional lane assist system helps the driver to stay in lane by monitoring the lane markings on both sides of the vehicle by means of a camera. If the vehicle threatens to leave the lane, active steering interventions guide it back on course. The function is activated from speeds of 60 km/h and above, and is temporarily deactivated by switching on the indicator. The driver can also activate and deactivate the assist systems independently using a button on the centre console.

The lane change assist system is also available as an option and aids the driver when changing lanes. The system monitors the area behind the vehicle and the blind spot using radar sensors. At speeds of 30 km/h or above, the system informs the driver of vehicles approaching quickly from behind or located in the blind spot by providing a visual signal in the exterior mirrors. However, the system does not intervene in the controlling of the vehicle. The function can be activated and deactivated by pressing a button in the driver's door.

Greater comfort and safety: ACC with PAS

To enhance driving comfort and safety in the Macan, Porsche offers ACC with PAS safety function. The ACC function is based on a radar sensor located in the vehicle front end, used to monitor the road up to 200 metres ahead of the vehicle. ACC maintains a speed-dependant distance from a vehicle travelling ahead over four pre-

selectable stages, and automatically adjusts the driving speed, if necessary down to a halt. This relieves the pressure on the driver, particularly in traffic jams and slow-moving traffic.

PAS builds on this system and can help avoid bumper-to-bumper collisions – even when ACC is switched off. To deliver this function, the front radar system monitors traffic on an on-going basis, looking for vehicles travelling much more slowly up ahead. If the system detects an impending hazard situation, the brake system is preconditioned and the brake assistant is sensitised. If the situation becomes more critical, PAS emits visual and audible warnings, and the driver is alerted to the need to intervene by a jolt in the brake pedal. If the driver responds with an inadequate braking action, the system can increase the brake pressure up to full braking, depending on the situation in question.

Porsche Exclusive and Tequipment products for the Macan

Completely unique

Porsche drivers do not buy run-of-the-mill products. And the Macan, too, is far from ordinary, as the design of the vehicle can be customised through a host of different options. What's more, Porsche Exclusive is able to fulfil out-of-the-ordinary customer requests ex works. Porsche Tequipment also offers customisation solutions that can be purchased from a Porsche Centre and retrofitted in the vehicle.

The range of products for the Macan offered by Porsche Exclusive and Tequipment includes a SportDesign package, a sports exhaust system, dark-coloured main headlights and LED rear lights and additional wheel and tyre combinations, as well as interior packages and accessories such as the bicycle rack to increase everyday suitability.

The SportDesign package emphasises the sporty and dynamic nature of the Macan and includes body parts that have been developed as stand-alone components, such as the front end, sideskirts, rear apron, rear centre panel and the roof spoiler lip. The SportDesign package is available in the same colour as the vehicle exterior or in High-Gloss Black paint to create colour contrasts with the main body colour and further enhance the vehicle's sporty look.

The sports exhaust system from Porsche Exclusive and Tequipment features a modified rear muffler and twin tailpipes. The tailpipes are available in either black or silver chrome-plated high-gloss stainless steel, making the sports exhaust system a visual as well as an acoustic highlight.

The Bi-Xenon headlights feature frames and tubes in black and include the Porsche Dynamic Light System (PDLS) as standard. The lens of the LED rear lights is dark red, while some of the inner components of the lights are also finished in black.

A highlight of the Porsche Exclusive and Tequipment range for the Macan is the Sport Classic 21-inch wheel. The design of this wheel is a modern interpretation of the legendary "Fuchs wheel". The rim is made from forged aluminium, making it particularly light and durable and reducing the unsprung weight to enhance driving comfort and

agility. The Sport Classic wheel is available in High-Gloss Black, Platinum Satin Gloss and GT Silver Metallic.

The interior packages from Porsche Exclusive and Tequipment for the Macan are designed to add special touches in the interior of the vehicle. For example, the decorative panels on the dashboard and in the doors can be provided in the Exclusive Lined Oak trim, painted in the exterior vehicle colour or upholstered in smooth-finish leather in the interior colour. Other interior features can also be painted or upholstered in leather – such as the frame of the Porsche Communication Management (PCM) system.

It is essentially the creativity and individuality of the customer that determines how unique the design of the Macan can be – providing customers' ideas can be implemented from a technology and quality perspective, of course. As such, a vehicle given the Porsche Exclusive and Tequipment stamp will often be the only one of its kind in the world. The specialists from Porsche Exclusive and Tequipment rely on their highly skilled workmanship, exclusive materials and great attention to detail to make all customer requests a reality. The same level of care and attention can be seen in the range of accessories. These products include child seats, roof boxes and car care products, all of which are available from Porsche Centres.

All model-specific products from Porsche Exclusive and Tequipment are designed in line with the same stringent requirements that apply to the original vehicle. The products are created by the same highly qualified engineers and designers who are responsible for developing the series vehicles. All products undergo extensive quality and endurance testing at the Porsche Development Centre in Weissach, Germany.

The Macan – a ground-breaking eco-friendly production plant for new Porsche model line

Porsche invests half a billion euro in Macan production

Porsche is manufacturing the new Macan in one of the most innovative and sustainable automotive plants in the world. Situated approximately 200 kilometres to the south of Berlin, in the German trade city of Leipzig, the plant has been allocated an investment volume of over EUR 500 million (approx. USD 677 million) to prepare it for production of the fifth Porsche model line. The Porsche Cayenne and Panamera models are already manufactured in Leipzig (with 83,208 Cayenne vehicles and 27,056 Panamera vehicles produced in 2012 alone). The addition of the Macan line represents a significant increase in production volume at the plant: Once production of the new SUV is fully up and running, up to 50,000 Macan vehicles will be manufactured in Leipzig every year. Porsche is also more than doubling its workforce at the Leipzig site, increasing its current employees count from 1150 to 2550.

Triple the production area

In preparation for the production of the Macan, Porsche has managed to complete a plant extension project that rivals a new build project in record time. Thanks to the newly constructed 17-hectare extension – covering an area equivalent to 24 football pitches – the assembly plant has been transformed into a highly innovative full-scale production plant. The production area is now three times its original size and features an extremely energy-efficient body assembly facility as well as one of the world's most environmentally friendly paint shops. The assembly hall has also been greatly expanded with production lines for the Cayenne, Panamera and the new Macan.

Sustainable production – the Macan is manufactured in a “green” plant Annual CO₂ emissions reduced by 17,000 tons

By extending its Leipzig plant, Porsche has created one of the world's most environmentally friendly automotive plants. Thanks to new and innovative technologies, Porsche is in a position to reduce annual CO₂ emissions from the plant by almost 17,000 tons in comparison to those generated by conventional systems. Sustainable solutions are a common theme throughout the new body assembly facility and paint shop in particular.

Energy-efficient body assembly

The energy efficiency of the new plant has been optimised by the installation of a solar panel on the roof, comprising photovoltaic cells that are expected to generate up to 800,000 kWh of electricity per year. Porsche is also making energy savings in every other possible area. In the body assembly facility, for example, an innovative cooling system for the robotic welding guns is set to reduce annual electricity consumption by over 365,000 kWh, equivalent to the annual electricity consumption of more than 70 four-person households in Western Europe.

Sustainably managed paint shop

A new filtering system has been developed for the paint shop. The system reduces paint particle emissions to an absolute minimum, while also processing 2.3 million m³ of air (intake, circulation and exhaust) every hour, with a wet-chemical purification process for the exhaust air. Porsche is also demonstrating a pioneering approach to operational energy consumption. For instance, 80% of the heat required by the paint shop is being supplied on a carbon-neutral basis thanks to a sustainable alliance with a neighbouring biomass power plant. As a result, Porsche is reducing its CO₂ emissions by more than 8,000 tons per year.

1100 new trees on site

To demonstrate its holistic approach to environmental protection, the sustainable conditions have not been confined to the inside of the Porsche plant where the new Macan, Cayenne and Panamera vehicles are manufactured: Porsche has also arranged for the outdoor areas surrounding the state-of-the-art plant complex, which is around 74,000 m² of land (equivalent to ten football pitches), to be landscaped, which includes planting 1100 new trees.

In retrospect – a detailed look at the Porsche plant expansion project Porsche plant with a dedicated test track

The Leipzig site is the sports car manufacturer's second most important production facility after its main plant in Stuttgart-Zuffenhausen. The Leipzig plant was originally opened in August 2002 for production of the first Cayenne generation and was expanded in 2007 for assembly of the Panamera. Porsche is one of only a handful of automotive manufacturers around the world to have its own (FIA-certified) test track and countryside course, both

of which are situated in Leipzig. Customers have the option to collect their new Porsche directly from the on-site customer centre and receive instruction on the car's specific features behind the wheel of an identical Porsche vehicle from an instructor with motorsport experience.

Plant expansion from autumn 2011 to the end of 2013

The decision to produce the future Macan model line at this site and therefore to expand the existing facility to a full-scale production plant was made in 2011. From then on, everything happened very quickly – the foundation stone for the plant expansion was actually laid in October of the same year. According to the original schedule, production would be due to start by the end of 2013. In a few short weeks, this ambitious goal will have been achieved, as the first demonstration vehicles roll off the production line for market launch. In particular, the short time it took to obtain all the necessary government permits is a good advertisement for Germany's potential as a centre of business and the results-driven focus of the responsible Porsche project team. Without the seamless cooperation between Porsche and the independent government authorities, it would never have been possible to complete a building project of this magnitude within such a short time frame.

The new body assembly facility

In June 2012, Porsche celebrated the topping-out ceremony for the body assembly facility, and just three months later the first systems were being installed. Thanks to the highly professional team consisting of Porsche employees, planning specialists, surveyors and architects, as well as the close cooperation of the responsible bodies and authorities from the Free State of Saxony and the city of Leipzig, the first Macan pre-series production body was ready for an internal status quo analysis just 16 months after the ground-breaking ceremony. The new Macan bodies are manufactured to the customary high Porsche quality standards by 370 industrial robots within a 35,000 m² area. In Leipzig, the steel and aluminium pressed body parts manufactured within the Porsche production system are joined together in under four hours via approximately 5200 spot welds.

The new paint shop

Construction of the new paint shop was completed at almost exactly the same time as the body assembly facility.

In this case too, the time period in which the 360-metre long, 72-metre wide and 30-metre high new building was constructed represents a logistical master stroke. Having commenced the earthworks in October 2011 and construction of the shell in March 2012, the topping-out ceremony for the 60,000 m² complex was held in November of the same year. The classic football pitch analogy (according to FIFA standards) once again proves appropriate for illustrating the scale of the complex, which at 60,000 m² is equivalent to around eight football pitches. By August 2013 – less than one and a half years since the start of construction – the paint shop was able to start testing, and the new employees were able to paint the first Macan body. The vehicles are painted by 81 robots in eleven different colour shades and a variety of individual colours.

The new assembly line

Production of the successful Cayenne and Panamera models has been firing on all cylinders for many years now with almost 660,000 models of both model lines manufactured by the end of September 2013. It is really quite remarkable that the new Macan production line has been integrated into the considerably extended assembly hall without any interruption to the production of these vehicles. The production experts liken this extremely challenging synchronised process to an operating on the “open heart” of the plant. And the operation was a success: Since the start of the Macan pre-series production, the three Porsche model lines have been assembled in parallel at the Leipzig site using a highly flexible production method known as mixed production. This means that in addition to building Porsche vehicles with petrol or diesel engines, the production employees also build hybrid vehicles (at present, the Cayenne) and plug-in hybrid models (at present, the Panamera).

Technical Data

Specifications of the Porsche Macan S*

Body	Self-supporting lightweight body; two-stage driver and front passenger airbags; side and knee airbags for driver and front passenger; head airbags (curtain airbags) at the front and rear; five seats.
Aerodynamics	Drag coefficient C_d : 0.36 Frontal area A: 2.61 m ²
Engine	Water-cooled 3.0-litre V6 biturbo engine; aluminium engine block and cylinder heads; four camshafts; four valves per cylinder; continuous intake camshaft and valve-lift adjustment (VarioCam Plus); hydraulic valve clearance compensation; direct fuel injection; two turbochargers; integrated dry-sump lubrication; engine oil capacity of 9.5 litres; two three-way catalytic converters each with two oxygen sensors per cylinder bank; electronic ignition with six individual ignition coils; thermal management system for engine and transmission cooling circuit; variable deceleration fuel cutoff; auto Start Stop function.
Bore	96.0 mm
Stroke	69.0 mm
Displacement	2,997 cm ³
Compression Ratio	9.8:1
Engine Power	340 hp (250 kW) at 5,500 to 6,500 rpm
Max. Torque	460 Nm at 1,450 to 5,000 rpm
Power Output per Litre	113.4 hp/l (83.4 kW/l)
Maximum Revs	6,700 rpm
Fuel Type	Super Plus
Electrical System	12 volts; 3,000 W three-phase generator; battery capacity 92 Ah; electrical system recuperation

*Specifications may vary according to markets

Specifications of the Porsche Macan S*

Power Transmission	<p>Engine and transmission bolted to form one drive unit; active all-wheel drive with electronically controlled, map-controlled multi-plate clutch; seven-speed double-clutch transmission.</p> <p>Gear ratios:</p> <table><tr><td>1st gear</td><td>3.69</td></tr><tr><td>2nd gear</td><td>2.15</td></tr><tr><td>3rd gear</td><td>1.41</td></tr><tr><td>4th gear</td><td>1.03</td></tr><tr><td>5th gear</td><td>0.79</td></tr><tr><td>6th gear</td><td>0.63</td></tr><tr><td>7th gear</td><td>0.52</td></tr><tr><td>R gear</td><td>2.94</td></tr><tr><td>Front axle final drive ratio</td><td>3.88</td></tr><tr><td>Rear axle final drive ratio</td><td>4.40</td></tr></table>	1 st gear	3.69	2 nd gear	2.15	3 rd gear	1.41	4 th gear	1.03	5 th gear	0.79	6 th gear	0.63	7 th gear	0.52	R gear	2.94	Front axle final drive ratio	3.88	Rear axle final drive ratio	4.40
1 st gear	3.69																				
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R gear	2.94																				
Front axle final drive ratio	3.88																				
Rear axle final drive ratio	4.40																				
Chassis	<p>Front axle: aluminium five-arm wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p> <p>Rear axle: aluminium trapezoidal-wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p>																				
Brakes	<p>Dual-circuit brake system with axle distribution.</p> <p>Front: six-piston aluminium monobloc brake callipers; vented brake discs with a diameter of 350 mm and thickness of 34 mm.</p> <p>Rear: combined floating calliper brakes with integrated electric parking brake; vented brake discs with a diameter of 330 mm and thickness of 22 mm.</p> <p>Porsche Stability Management (PSM); vacuum brake booster; brake assistant.</p>																				

*Specifications may vary according to markets

Specifications of the Porsche Macan S*

Wheels and Tyres	Front	8 J x 18	with	235/60 R 18 103W
	Rear	9 J x 18	with	255/55 R 18 105W
Weights	DIN weight empty			1,865 kg
	Permissible gross weight			2,550 kg
Dimensions	Length			4,681 mm
	Width			1,923 mm
	Width with exterior mirrors			2,098 mm
	Height			1,624 mm
	Wheelbase			2,807 mm
	Track widths		Front	1,655 mm
			Rear	1,651 mm
Luggage compartment volume			500 to 1,500 l	
Tank capacity			65 l	
Performance	Top speed			254 km/h
	Acceleration: 0 – 100 km/h			5.4 secs (5.2 secs**)
	0 – 160 km/h			13.2 secs (13.0 secs**)
	0 – 1,000 m			25.7 secs (25.4 secs**)
Fuel Consumption (NEDC)	Overall			9.0 – 8.7 l/100 km [^]
	Urban traffic			11.6 – 11.3 l/100 km [^]
	Extra-urban traffic			7.6 – 7.3 l/100 km [^]
CO ₂ Emissions	Overall			212 – 204 g/km
Emissions Class				Euro 6

*Specifications may vary according to markets

**With optional Sport Chrono package

[^]Versatility depending on the tyre set used

Specifications of the Porsche Macan Turbo*

Body	Self-supporting lightweight body; two-stage driver and front passenger airbags; side and knee airbags for driver and front passenger; head airbags (curtain airbags) at the front and rear; five seats.
Aerodynamics	Drag coefficient C_d : 0.37 Frontal area A: 2.61 m ²
Engine	Water-cooled 3.6-litre V6 biturbo engine; aluminium engine block and cylinder heads; four camshafts; four valves per cylinder; continuous intake camshaft and valve-lift adjustment (VarioCam Plus); hydraulic valve clearance compensation; direct fuel injection; two turbochargers; integrated dry-sump lubrication; engine oil capacity of 9.5 litres; two three-way catalytic converters each with two oxygen sensors per cylinder bank; electronic ignition with six individual ignition coils; thermal management system for engine and transmission cooling circuit; variable deceleration fuel cutoff; auto Start Stop function.
Bore	96.0 mm
Stroke	83.0 mm
Displacement	3,604 cm ³
Compression Ratio	10.5:1
Engine Power	400 hp (294 kW) at 6,000 rpm
Max. Torque	550 Nm at 1,350 to 4,500 rpm
Power Output per Litre	110.9 hp/l (81.6 kW/l)
Maximum Revs	6,700 rpm
Fuel Type	Super Plus
Electrical System	12 volts; 3,000 W three-phase generator; battery capacity 92 Ah; electrical system recuperation

*Specifications may vary according to markets

Specifications of the Porsche Macan Turbo*

Power Transmission	<p>Engine and transmission bolted to form one drive unit; active all-wheel drive with electronically controlled, map-controlled multi-plate clutch; seven-speed double-clutch transmission.</p> <p>Gear ratios:</p> <table><tr><td>1st gear</td><td>3.69</td></tr><tr><td>2nd gear</td><td>2.15</td></tr><tr><td>3rd gear</td><td>1.41</td></tr><tr><td>4th gear</td><td>1.03</td></tr><tr><td>5th gear</td><td>0.79</td></tr><tr><td>6th gear</td><td>0.63</td></tr><tr><td>7th gear</td><td>0.52</td></tr><tr><td>R gear</td><td>2.94</td></tr><tr><td>Front axle final drive ratio</td><td>4.13</td></tr><tr><td>Rear axle final drive ratio</td><td>4.67</td></tr></table>	1 st gear	3.69	2 nd gear	2.15	3 rd gear	1.41	4 th gear	1.03	5 th gear	0.79	6 th gear	0.63	7 th gear	0.52	R gear	2.94	Front axle final drive ratio	4.13	Rear axle final drive ratio	4.67
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R gear	2.94																				
Front axle final drive ratio	4.13																				
Rear axle final drive ratio	4.67																				
Chassis	<p>Front axle: aluminium five-arm wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p> <p>Rear axle: aluminium trapezoidal-wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p>																				
Brakes	<p>Dual-circuit brake system with axle distribution.</p> <p>Front: six-piston aluminium monobloc brake callipers; vented brake discs with a diameter of 360 mm and thickness of 36 mm.</p> <p>Rear: combined floating calliper brakes with integrated electric parking brake; vented brake discs with a diameter of 356 mm and thickness of 28 mm.</p> <p>Porsche Stability Management (PSM); vacuum brake booster; brake assistant.</p>																				

* Specifications may vary according to markets

Specifications of the Porsche Macan Turbo*

Wheels and Tyres	Front	8 J x 19	with	235/55 R 19 101Y
	Rear	9 J x 19	with	255/50 R 19 103Y
Weights	DIN weight empty			1,925 kg
	Permissible gross weight			2,550 kg
Dimensions	Length			4,699 mm
	Width			1,923 mm
	Width with exterior mirrors			2,098 mm
	Height			1,624 mm
	Wheelbase			2,807 mm
	Track widths		Front	1,655 mm
			Rear	1,651 mm
Luggage compartment volume			500 to 1,500 l	
Tank capacity			75 l	
Performance	Top speed			266 km/h
	Acceleration: 0 – 100 km/h			4.8 secs (4.6 secs**)
	0 – 160 km/h			11.1 secs (10.9 secs**)
	0 – 1,000 m			24.2 secs (23.9 secs**)
Fuel Consumption (NEDC)	Overall			9.2 – 8.9 l/100 km [^]
	Urban traffic			11.8 – 11.5 l/100 km [^]
	Extra-urban traffic			7.8 – 7.5 l/100 km [^]
CO ₂ Emissions	Overall			216 – 208 g/km
Emissions Class				Euro 6

*Specifications may vary according to markets

**With optional Sport Chrono package

[^]Versatility depending on the tyre set used

Specifications of the Porsche Macan S Diesel*

Body	Self-supporting lightweight body; two-stage driver and front passenger airbags; side and knee airbags for driver and front passenger; head airbags (curtain airbags) at the front and rear; five seats.
Aerodynamics	Drag coefficient C_d : 0.35 Frontal area A: 2.61 m ²
Engine	Water-cooled, 3.0-litre V6 turbo diesel engine; grey cast iron crankcase; aluminium cylinder head; four camshafts; four valves per cylinder; hydraulic valve clearance compensation; common rail diesel direct injection (2000 bar) via piezo injectors; one turbocharger; one charge-air cooler; controlled exhaust gas recirculation with radiator; intake system with map-controlled swirl flap; engine oil capacity of 8.0 litres; emission control system with oxidation catalytic converter, diesel particle filter and Selective Catalytic Reduction (SCR) system; thermal management system; auto Start Stop function.
Bore	83.0 mm
Stroke	91.4 mm
Displacement	2,967 cm ³
Compression Ratio	16.8:1
Engine Power	258 hp (190 kW) at 4,000 to 4,250 rpm
Max. Torque	580 Nm at 1,750 to 2,500 rpm
Power Output per Litre	87.1 hp/l (64.0 kW/l)
Maximum Revs	5,200 rpm
Fuel Type	Diesel
Electrical System	12 volts; 2,400 W three-phase generator; battery capacity 105 Ah; electrical system recuperation

*Specifications may vary according to markets

Specifications of the Porsche Macan S Diesel*

Power Transmission	<p>Engine and transmission bolted to form one drive unit; active all-wheel drive with electronically controlled, map-controlled multi-plate clutch; seven-speed double-clutch transmission.</p> <p>Gear ratios:</p> <table><tr><td>1st gear</td><td>3.69</td></tr><tr><td>2nd gear</td><td>2.15</td></tr><tr><td>3rd gear</td><td>1.34</td></tr><tr><td>4th gear</td><td>0.97</td></tr><tr><td>5th gear</td><td>0.74</td></tr><tr><td>6th gear</td><td>0.57</td></tr><tr><td>7th gear</td><td>0.46</td></tr><tr><td>R gear</td><td>2.94</td></tr><tr><td>Front axle final drive ratio</td><td>4.13</td></tr><tr><td>Rear axle final drive ratio</td><td>4.67</td></tr></table>	1 st gear	3.69	2 nd gear	2.15	3 rd gear	1.34	4 th gear	0.97	5 th gear	0.74	6 th gear	0.57	7 th gear	0.46	R gear	2.94	Front axle final drive ratio	4.13	Rear axle final drive ratio	4.67
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Chassis	<p>Front axle: aluminium five-arm wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p> <p>Rear axle: aluminium trapezoidal-wishbone axle; cylindrical coil springs with internal, hydraulic, twin-tube, gas-filled shock absorbers.</p>																				
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*Specifications may vary according to markets

Specifications of the Porsche Macan S Diesel*

Wheels and Tyres	Front	8 J x 18	with	235/60 R 18 103W
	Rear	9 J x 18	with	255/55 R 18 105W
Weights	DIN weight empty	1,880 kg		
	Permissible gross weight	2,575 kg		
Dimensions	Length	4,681 mm		
	Width	1,923 mm		
	Width with exterior mirrors	2,098 mm		
	Height	1,624 mm		
	Wheelbase	2,807 mm		
	Track widths	Front	1,655 mm	
		Rear	1,651 mm	
Luggage compartment volume	500 to 1,500 l			
Tank capacity	60 l			
Performance	Top speed	230 km/h		
	Acceleration: 0 – 100 km/h	6.3 secs (6.1 secs**)		
	0 – 160 km/h	16.7 secs (16.5 secs**)		
	0 – 1,000 m	27.2 secs (26.8 secs**)		
Fuel Consumption (NEDC)	Overall	6.3 – 6.1 l/100 km [^]		
	Urban traffic	6.9 – 6.7 l/100 km [^]		
	Extra-urban traffic	5.9 – 5.7 l/100 km [^]		
CO ₂ Emissions	Overall	164 – 159 g/km		
Emissions Class	Euro 6			

*Specifications may vary according to markets

**With optional Sport Chrono package

[^]Versatility depending on the tyre set used

Photos



Macan_14001



Macan_14002



Macan_14003



Macan_14004



Macan_14005



Macan_14006



Macan_14007



Macan_14008



Macan_14009



Macan_14010



Macan_14011



Macan_14012



Macan_14013



Macan_14014



Macan_14015



Macan_14016



Macan_14017



Macan_14018



Macan_14019



Macan_14020



Macan_14021



Macan_14022



Macan_14023

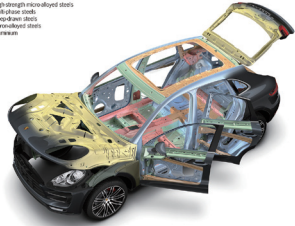


Macan_14024

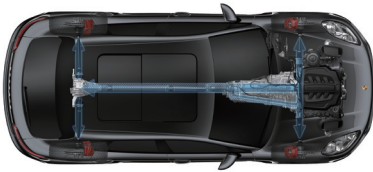


Macan_14025

Legend:
High-strength microalloyed steels
Multiphase steels
Deep-Drawn steels
Hot-formed steels
Aluminum



Macan_14026



Macan_14027



Macan_14028



Macan_14029



Macan_14030



Macan_14031



Macan_14032



Macan_14033



Macan_14034



Macan_14035

