



### 3. The philosophy: A new dimension in driving pleasure.

- **BMW M Performance Automobiles form a new product category prioritising sharp sporting focus and outstanding efficiency.**
- **M expertise ensures flawless interplay of powertrain, chassis and aerodynamic balance.**
- **Familiar concept given a contemporary makeover: BMW M performance cars follow in the tyre tracks of the BMW M535i.**

Extraordinary performance, well-rounded driving characteristics centred around the perfect harmony of powertrain, chassis and aerodynamically optimised design, and impressive efficiency set the BMW M Performance Automobiles apart. The new product category satisfies the demands of performance-minded drivers for enhanced driving pleasure coupled with unrestricted everyday usability.

The first models in this category – developed by BMW M GmbH – add further depth to the BMW 5 Series, BMW X5 and BMW X6 ranges. They are driven by the most powerful diesel engine ever introduced into one of the brand's cars, feature chassis technology adapted precisely to the engine's performance characteristics, are fitted with an eight-speed Sports automatic transmission with enhanced gearshift dynamics, boast a version of the BMW xDrive intelligent all-wheel-drive system optimised to enhance dynamics, and include bespoke design and equipment features inside and out.

#### **BMW M GmbH: carving out a niche in exceptionally well-rounded vehicle concepts.**

The conception of the BMW M Performance Automobiles builds on the stand-out attributes of each baseline BMW model and shines an even brighter light on the dynamics for which the brand is famed. Underpinning the new model variants are an extensive array of modifications to the components most centrally involved in honing the cars' sporting edge. BMW M GmbH oversees the definition and execution of all model-specific technical and

design features. The company can call on a vast well of expertise – born out of decades of experience in motor sport – in the creation of high-performance cars allowing fingertip control. This know-how enables the development and production of high-performance sports cars with bespoke powertrain and chassis technology and a stand-alone design language that also finds its way into the conception of model-specific M Sport packages for BMW models.

The central principle in the development of the BMW M Performance Automobiles is the creation of an authentic character, one based on the controlled transformation of increased engine power into dynamic performance. The aim: a full-blooded driving experience. At the same time, the key day-to-day qualities of each particular BMW model in terms of functionality and ride comfort are preserved. The handling properties of the BMW M Performance Automobiles are defined by remarkable agility and precision. All modifications to the springs and damping, steering, braking system, chassis control systems and all-wheel-drive technology are geared to the specific performance characteristics of each car. Added to which, they coordinate their responses to deliver the most precise handling possible. The result is that, even when the driver is pushing the car's dynamic limits, the power transfer systems, steering and brakes deliver clear and predictable responses to his promptings through the accelerator, steering and brakes.

The positioning of the BMW M Performance Automobiles is dictated by both the power unit under the bonnet and their typically M overall set-up. The engine developed for the BMW M550d xDrive, BMW X5 M50d and BMW X6 M50d is the most powerful diesel unit in the brand's current line-up, and the modifications conjured up by BMW M GmbH are reserved exclusively for the BMW M Performance Automobiles.

### **More power, easy control – building on a fine tradition.**

The origins of BMW M GmbH lie in the development and production of racing cars, which wasted no time in achieving head-turning success – notably in touring car competition. The clear sporting potential that filtered down into standard roadgoing BMW models whetted many customers' appetites for extra power. Just a few years after BMW Motorsport GmbH was founded, in 1972, the first BMW 5 Series models gained the necessary engine, power transfer and chassis modifications to respond to those owners' wishes. Then,

in 1980, a new model was added to the BMW 5 Series range; the BMW M535i was powered by a 3.5-litre straight-six engine developing 160 kW/218 hp and only previously available for the BMW 6 Series and BMW 7 Series. To make the most of its significant power advantage, this model also came in for precisely judged modifications to its chassis, brakes, gearbox and rear differential, as well as special tyres and rims, sports seats and a leather steering wheel. Aerodynamically optimised front and rear spoilers could also be specified as an option.

A BMW M535i was also developed on the basis of the second-generation BMW 5 Series and went on sale from 1984 to 1987. With its increased output channelled seamlessly into dynamic flair and aerodynamically optimised body components setting it apart stylistically from its 5 Series siblings, the M535i introduced drivers to a whole new level of driving pleasure yet also provided unrestricted everyday usability. This concept enjoyed sustained success over many years, even after the high-performance BMW M5 sports car was unveiled in 1985. And now it has been revived in a fresh and contemporary new form with the arrival of the BMW M Performance Automobiles.



## 4. The powertrain: The most innovative and sporty diesel engine in the world.

- **World's most powerful six-cylinder in-line diesel engine, unique technology: M Performance TwinPower Turbo with three turbochargers and further developed common-rail injection system for the first time.**
- **Maximum output: 280 kW/381 hp, peak torque: 740 Newton metres (546 lb-ft), instantaneous, linear power delivery across a wide rev band, maximum revs: 5,400 rpm.**
- **BMW EfficientDynamics: innovative technical highlights ensure optimised efficiency, BMW M550d xDrive with fuel economy of 6.3 litres/100 km (44.8 mpg imp) in the EU test cycle.**

Impressive statistics headline the enviable regard in which modern diesel engines are held. The output now within their compass, but more significantly the maximum torque they are capable of generating have fuelled their popularity among even performance-minded drivers. The high efficiency of diesel technology also ensures extremely low fuel consumption and CO<sub>2</sub> emissions. BMW has played a major role in the burgeoning appeal of the diesel engine, developing units which have time and again raised the bar in terms of sports performance and efficiency. The company's record of diesel engine development, which began in 1983 with the launch of its first diesel model, now continues into another fascinating dimension. The first of the new BMW M Performance Automobiles – founding a product category focusing on sporty driving pleasure – are powered by a diesel engine. The 3.0-litre six-cylinder in-line unit, whose cover bears the M Performance badge, has all the necessary tools to fulfil the brief handed to the new breed: technology without parallel worldwide, the highest output ever achieved by a BMW diesel engine and outstanding levels of efficiency.

Fitted in the BMW M550d xDrive, BMW M550d xDrive Touring, BMW X5 M50d and BMW X6 M50d, the 2,993 cc engine generates maximum output of 280 kW/381 hp. No less imposing is its peak torque of

740 Newton metres (546 lb-ft), all of which the driver will find on tap as low down as 2,000 rpm. Instantaneous torque development maintained into the upper reaches of the rev range is the hallmark feature of the new unit, one underpinned by an array of innovative and globally unique technical wizardry. Taking centre stage – for the first time in a BMW – are a trio of turbochargers. Their arrangement and interplay strategy are the key to the engine achieving its exceptionally high efficiency.

**More pressure, more output, more torque: world premiere for six-cylinder in-line diesel engine with three turbochargers.**

The coordinated interplay of turbochargers of different sizes endows an engine with instantaneous responsiveness at low revs and allows charge pressure to be increased according to need when the engine is placed under greater loads. BMW uses this concept in the six-cylinder in-line diesel engines with BMW TwinPower Turbo technology fitted in models including the BMW 535d, BMW X5 xDrive40d and BMW X6 xDrive40d. And now the company is set to become the world's first carmaker to present a diesel engine which expands the principle of multi-stage turbocharging to incorporate a third turbocharger. The engine developed for the BMW M Performance Automobiles will, for the first time, see two comparatively small high-pressure chargers working with a larger low-pressure unit. The integration of an additional high-pressure turbo increases the engine's capability when it comes to generating charge pressure, a key ingredient in taking the engine's power output to the next level.

The M Performance TwinPower Turbo technology – including the requisite charge air cooling – is, like its predecessor, integrated into a small space in the main unit. Its compact construction puts the engine in a position to meet future pedestrian protection stipulations, while the arrangement of the three turbochargers is also part of an extremely intelligent system. Both the exhaust inflow to drive the turbos and the supply of fresh air, plus the channelling of compressed air to the combustion chambers, have been designed to ensure that the three compression units work as a team as effectively as possible at all engine speeds. Efficiency is further optimised by the variable turbine geometry of the two high-pressure chargers, which allows them to react even more precisely to the driver's power needs.

### **Instantaneous responsiveness and precisely coordinated interplay.**

One of the two small turbos is activated at engine speeds just above idle. Its low moment of inertia allows it to respond without delay to the slightest movements of the accelerator and therefore supply the combustion chambers with compressed air at an early stage. As revs increase, the flow of exhaust gas also reaches the larger turbocharger, which announces its arrival with the engine spinning at just 1,500 rpm. Working together with the small charger, it ensures that the impressive peak torque of 740 Newton metres (546 lb-ft) is generated at this low engine speed and maintained up to 3,000 rpm.

To further increase the performance of the large turbocharger, a greater volume of exhaust gas is required at around 2,700 rpm. If the driver calls up additional power, a vacuum-modulated exhaust flap instantly opens up another supply route, allowing extra exhaust gas to flow past the already active high-pressure charger to the large low-pressure turbo. The third turbocharger – integrated into this bypass line – also has a low moment of inertia and variable compressor geometry, which allow it to spring into action as soon as the exhaust flap opens. The result is additional charge pressure, generated by two sources at the same time. The large turbocharger is able to deliver its full output, while the second small turbo builds on the effect of its two active colleagues by supplying even more compressed air to the combustion chambers. This arrangement allows the turbocharging system to drive the engine with forceful and sustained thrust to its maximum output of 280 kW/381 hp, which it notches up between 4,000 and 4,400 rpm. The maximum engine speed of the new diesel powerplant is 5,400 rpm.

In order to ensure that charge pressure is developed as effectively as possible, not to mention efficiently, both the exhaust flow and supply of fresh air to the turbos and the channelling of compressed air into the combustion chambers is regulated with maximum precision. If the large turbocharger is spinning at particularly high speeds, a vacuum regulator opens a wastegate valve to relieve the pressure and so avoid unwanted exhaust backpressure. The supply of fresh air is also controlled according to need by means of pneumatically activated flaps. For example, at low revs a bypass flap ensures that the air is channelled directly to the high-pressure charger, which spins into action very early. At less than 2,700 rpm a change-over flap keeps the air away from the

third turbo, which is not yet active, to prevent unnecessary fluctuations in pressure.

Indirect charge air cooling enables the temperature of the air compressed by the three turbos to be reduced to the optimum level for increasing engine output. Both the main radiator positioned immediately in front of the combustion chambers and the intercooler behind the low-pressure charger are supplied by a low-temperature water circuit with separate electric pump.

**Detailed optimisation enables higher combustion pressure, increased output and enhanced efficiency.**

The new torquey and high-revving diesel engine also breaks new ground with its specific output of 93.6 kW per litre of displacement. However, the output possible using M Performance TwinPower Turbo technology is generated not in the turbochargers but in the core of the basic engine, which has therefore also been extensively modified. Maximum combustion pressure has risen from the 185 bar of the most powerful diesel engine in the existing BMW line-up to 200 bar.

As part of this development, the crankcase in the new 3.0-litre diesel engine features an innovative tie rod concept for the assembly of the main bearing caps and cylinder head. The sintered main bearing caps are given extra strength by a central screw. Like the crankcase, the cylinder head is also subjected to a special high-pressure compression process. This "HIPen" manufacturing concept sees the aluminium castings heated to solution annealing temperature and the casting pores created during manufacturing welded under high pressure. This process gives the finished component additional strength. A double diagonal bore ensures the interbore bridges have high thermal stability.

The geometry of the crankshaft and connecting rods has been further optimised and they are now made from higher-strength materials. Added to which, hub bushings and bowl rim remelting enhance the effect of the increase in piston compression height.

### **Higher pressure also raises the efficiency of the injection system.**

The injection system of the new six-cylinder in-line diesel engine has also benefited from a rigorous process of further development. The common-rail direct injection system plays its part in enhancing the engine's efficiency and promoting clean combustion by sending extremely precise quantities of fuel into the cylinders. The upgraded system raises the injection pressure of the piezo injectors to 2,200 bar. During each power stroke, three pre-injections, one main injection and four post-injections of fuel take place.

An ultra-high-performance pump channels the fuel to the combustion chambers through a common rail made from forged stainless steel.

The output and capacity of the cooling system have been given another boost, too. An additional low-temperature circuit supplied by an electric water pump controls the temperature of the intercoolers. The exhaust treatment system includes a diesel particulate filter and oxidation catalytic converter, which is located close to the engine in the same casing. More efficient exhaust cooling, meanwhile, minimises the formation of nitrogen oxides. And standard-fitted BMW BluePerformance technology, which includes a NO<sub>x</sub> storage catalytic converter, helps the new diesel engine powering the BMW M550d xDrive to meet the EU6 exhaust standard not due to come into force until 2014.

### **Eight-speed Sports automatic transmission with M-specific gearshift dynamics.**

The combination of the most powerful diesel engine ever offered for a BMW with an eight-speed Sports automatic transmission ensures that drive is transferred onto the road surface extremely effectively and efficiently.

The configuration of the transmission management system for the BMW M Performance Automobiles promotes dynamic acceleration.

The M-specification gearshift dynamics enable extremely rapid gear changes with an almost uninterrupted flow of power. The eight-speed Sports automatic transmission offers the driver two automated shift programs – D and S modes – as well as the option of changing gear manually (in M mode).

The automatic gearbox is operated using an electronic gearshift lever on the centre console adorned with an M logo. Manual mode allows the driver to change gears sequentially using either the gearshift lever or the paddles on

the steering wheel. In customary M fashion, the right-hand paddle changes up a gear and the left-hand paddle is used for downshifts. If the driver activates manual mode using the gearshift lever, the transmission holds the gear selected until the engine's revs hit the limiter. By not shifting up automatically in this mode, the gearbox gives the driver maximum control over the car when pushing the dynamic boundaries. The driver can also switch instantaneously from automatic gear changes to M mode with a nudge of one of the gearshift paddles; if M mode is selected in this way, the gearbox's automatic shift-up function remains active. The transmission also restores automatic mode if the gearshift paddles are not used again following an upshift or downshift.

**Enhancing the natural soundtrack inside the car turns driving pleasure up yet another notch.**

The performance capability of the diesel engine and the hallmark M driving characteristics of the BMW M Performance Automobiles underpin a new definition of driving pleasure. Imposing torque and a set-up focused squarely on sports performance give drivers a dynamic driving experience they will never have previously sampled in a diesel car. The BMW M Performance Automobiles also lace this driving pleasure with additional acoustic appeal. Through sound design technology, the natural engine sound is specifically enhanced to suit the driving situation at the time and sent into the interior via the audio system, ensuring an authentic reproduction of the new engine's unmistakable straight-six soundtrack.

The system's digital signal processing technology exchanges data directly with the engine management, allowing it to base its precise transmission of the engine's timbre on the revs at any one time, the amount of torque being produced and the car's speed over the road. Accentuating the straight-six diesel's turbine-like, sporty and sonorous tones adds to the emotional appeal of the driving experience, especially in the BMW M550d xDrive when SPORT or SPORT+ mode is activated using the Driving Experience Control switch. This gives the driver an impressively accurate impression of how hard the engine is currently working and of the power being unleashed, and provides an even clearer window into the car's responses on the road. Controlling the audio system in this way also ensures that the engine sound can be enjoyed to equal effect from every seat.

**New six-cylinder engine with three turbochargers – a milestone in the glittering history of BMW diesel engines.**

The engine developed for the BMW M Performance Automobiles represents a new high water mark in the illustrious history of diesel engines at BMW. The premium carmaker has offered customers diesel-powered models since 1983. The BMW 524td that kicked off this fine tradition quickly earned itself the status of the sportiest diesel model on the market. Its engine developed 85 kW/115 hp and delivered the best performance yet also the lowest fuel consumption of any car in its class. Since then, diesel BMWs have regularly emerged as the most efficient models in head-to-head tests. A host of prestigious awards – such as the Engine of the Year Award – and the impressive success of diesel-powered BMW models on the track headline the company's unrivalled expertise in the development of diesel technology.

And so it is entirely in keeping with the company's proud heritage that the first BMW M Performance Automobiles are now set to line up with a diesel engine under the bonnet. The unit developed to power them fulfils its sporting brief with leading performance in a range of disciplines and, in so doing, dismantles the historic contradiction between driving pleasure and economy even more effortlessly than ever.



## 5. The BMW M550d xDrive and BMW M550d xDrive Touring: Best-seller raises the bar once again.

- **Balance between performance and fuel consumption unmatched in the executive class.**
- **BMW M550d xDrive sets the efficiency benchmark: 0 to 100 km/h (62 mph) in 4.7 seconds, fuel consumption in the EU test cycle: 6.3 litres/100 kilometres (44.8 mpg imp).**
- **Exclusive combination: outstanding diesel power, typically M set-up, expressive design.**

In what seems like the blink of an eye, the BMW 5 Series range has established itself as the best-selling model in the executive segment. A convincing balance between dynamics and ride comfort, exemplary efficiency, premium quality and innovative equipment features has earned both the Sedan and the Touring versions their huge popularity. Added to which, sporty yet elegant design and agile handling have helped fuel the fascination associated with the brand. And now the arrival of the BMW M Performance Automobiles aims to accentuate the sporting aspects of the BMW 5 Series' character. The BMW M550d xDrive and BMW M550d xDrive Touring capture the imagination with performance figures that leave their diesel-powered class rivals firmly in the shade. And they combine these leading values with the efficiency drivers have come to expect from diesel BMW cars.

The sporting focus of the BMW M550d xDrive and BMW M550d xDrive Touring is highlighted by bespoke modifications to power transfer, chassis and design components. These upgrades bear the signature of BMW M GmbH, which uses its development expertise to mould the two models into extraordinarily harmonious overall packages. The outstanding power of the tri-turbo straight-six diesel engine is translated into thrilling driving dynamics with impressive precision.

This allows the 5 Series-based BMW M Performance Automobiles to offer the driver not only supreme diesel power, but also remarkably agile handling and predictable, controllable responses when exploring their dynamic limits.

**Most powerful engine of its kind, sportiest diesel models in the segment.**

The new and globally unique M Performance TwinPower Turbo technology gives the six-cylinder in-line diesel engine powering the BMW M550d xDrive and BMW M550d xDrive Touring maximum output of 280 kW/381 hp and peak torque of 740 Newton metres (546 lb-ft). The engine's instantaneous and sustained wave of torque allows it to lay down benchmark performance values for diesel-powered executive cars. The BMW M550d xDrive Sedan goes from 0 to 100 km/h (62 mph) in 4.7 seconds, while the BMW M550d xDrive Touring records 4.9 seconds for the same sprint. The duo also display addictive elasticity at higher speeds thanks to their engine's vast reserves of power. Top speed is electronically limited to 250 km/h (155 mph) in both cases.

The diesel technology developed exclusively for the BMW M Performance Automobiles also gives the new arrivals a convincing head start in terms of efficiency. The Sedan offers fuel economy figures of 6.3 litres per 100 kilometres (44.8 mpg imp) in the EU test cycle, while the Touring achieves 6.4 l/100 km (44.1 mpg imp). CO<sub>2</sub> emissions are 165 grams per kilometre for the BMW M550d xDrive Sedan and 169 g/km in the case of the BMW M550d xDrive Touring. Standard-fitted BMW BluePerformance technology also allows the two models to meet the stipulations of the EU6 exhaust standard.

The new cars' outstanding balance between driving pleasure and fuel consumption can be credited to the impressive efficiency of the new diesel powerplant and the spread of BMW EfficientDynamics technology fitted as standard. The BMW M550d xDrive and BMW M550d xDrive Touring benefit, among other things, from the pace-setting efficiency of an eight-speed Sports automatic transmission with long high gears, precisely graded responses and minimal converter slip. Another standard feature, the Auto Start-Stop function, switches the engine off automatically when the driver stops at junctions or in congestion. And the ECO PRO mode activated using the standard Driving Experience Control switch helps the driver maintain an economical and relaxed driving style through tweaks to the engine management, accelerator responses and gearshift program. In

addition, ECO PRO mode regulates the output of electrically operated functions such as the climate control, heated seats and exterior mirrors to provide extremely efficient energy management. The BMW M550d xDrive and BMW M550d xDrive Touring also come with Brake Energy Regeneration, need-based operation of ancillary units, active air flap control and a disengageable air conditioning compressor.

### **BMW xDrive all-wheel drive with special M set-up.**

The BMW M Performance Automobiles come as standard with BMW xDrive to channel the engine's power variably and as the situation demands between the front and rear wheels. The electronically controlled all-wheel-drive system works using a bespoke control strategy, which allows the threat of understeer in extremely dynamic driving situations to be counteracted by adjustments to the power split, without the DSC (Dynamic Stability Control) system linked up to xDrive having to intervene. The system's M-specific tuning accentuates the traditional rear-wheel bias of BMW cars when it comes to power distribution.

The all-wheel-drive system of the BMW M550d xDrive and BMW M550d xDrive Touring sends more drive to the rear axle on the entry into a corner, delivering exceptionally precise cornering and impressive directional stability. In addition, the likewise standard Performance Control divides power between the rear wheels to maximise the cars' sports performance. Carefully judged braking of the rear wheel nearest the inside of the bend coupled with a simultaneous increase in drive power ensure the car responds to the driver's steering commands instantaneously and with high precision. The driver can even use the self-steering response typical of M cars to execute controlled drifts through dynamically taken corners.

### **Hallmark M chassis tuning delivers precise, agile handling.**

The chassis technology of the BMW M550d xDrive and BMW M550d xDrive Touring is based on a double-wishbone front axle and integral rear axle. In addition, the Touring model has air suspension with automatic self-levelling at the rear axle. The suspension, spring and damper system, and hydraulic steering with Servotronic function also benefit from M-specific tuning. The associated modifications imbue both models with a fresh take on the traditional M handling characteristics, the cars' agility under

lateral and longitudinal acceleration – and the precision of its responses to steering commands – entering a new dimension.

Special rubber bearings and anti-roll bars optimise the bodysell mounting of the BMW M550d xDrive and BMW M550d xDrive Touring. Plus, modified springs and dampers give the two models tighter basic responses to dynamic forces. Optimised anti-roll control promotes instantaneous turn-in at any speed. The build-up of lateral forces under changes in direction is pleasingly linear and can therefore be controlled at all times. All of which means the BMW M Performance Automobiles also preserve the familiar comfort-enhancing properties of the BMW 5 Series when it comes to ironing out bumps and ruts in the road surface. If the optional Dynamic Damper Control or

Adaptive Drive system is specified, COMFORT+ mode can also be selected using the Driving Experience Control switch. The M-specific overall set-up of the BMW M Performance Automobiles also includes modifications to the tuning of the electronically controlled dampers and anti-roll control. The result is a well-resolved, typically M overall set-up regardless of the equipment options chosen.

The powerful braking system on the BMW M550d xDrive and BMW M550d xDrive Touring features inner-vented discs; like the discs charged with stopping the V8 petrol-engined BMW 550i, they have a diameter of 374 millimetres at the front axle and 345 millimetres at the rear. The standard 19-inch M light-alloy wheels in double-spoke design are fitted with 245/40 R 19 format tyres. 20-inch M light-alloy wheels – developed exclusively for the BMW M Performance Automobiles – with mixed tyres can be ordered as an option.

### **Exclusive sporting character outside and in.**

Another feature of the typically M overall set-up are the aerodynamic characteristics of the body, which help to give the BMW M550d xDrive and BMW M550d xDrive Touring their precisely controllable dynamics. The sporty yet elegant appearance of the two cars is complemented by a bespoke, airflow-optimising design for the front and rear aprons. The front view of both models is dominated by large air intakes. For example, the spaces around the outer air intakes normally reserved for foglamps on regular

BMW 5 Series models are used to enhance the inflow of cooling air. The three-dimensional shaping of the front apron incorporates air-channelling flaps at the lower edge of the outer intakes, which are split horizontally by bars painted Ferric Grey metallic. The same shade is used for the exterior mirror caps and optional 20-inch M light-alloy wheels. BMW Individual High-gloss Shadow Line trim for the B-pillars, exterior mirror base and window surrounds also comes as standard.

Its extremely powerful form and an integrated diffuser element allow the bespoke rear apron of the BMW M550d xDrive and BMW M550d xDrive Touring to optimise both the cars' sporting appearance and airflow around the underbody. A horizontal trim strip on the top edge of the Black insert accentuates the width of the body. The exhaust tailpipes, positioned far to the outer edges of the rear end, come with trapezoidal embellishers in Chrome Dark. Another distinguishing feature is the "M550d" lettering on the boot lid and front door sills.

Lending the interior a familiar M ambience are features such as the gearshift lever with M logo, M leather steering wheel with gearshift paddles, M driver's footrest, BMW Individual roof liner in Anthracite and Aluminium Hexagon interior trim strips. The sports seats in the exclusive M variant Alcantara/Cloth in Grey Shadow are adorned with contrast stitching and an embossed M logo. Dakota leather is available as an alternative, at no extra cost.

The standard equipment of the BMW M550d xDrive and BMW M550d xDrive Touring also includes xenon headlights, Cruise Control with braking function, electrically adjustable seats with memory function for the driver's seat, 4-zone climate control, a rain sensor, the Radio Professional, a hands-free facility with USB interface, ambient light and the iDrive control system. High-quality options such as Comfort Access, automatic tailgate operation (standard in Germany on the BMW M550d xDrive Touring), hands-free tailgate opening, electrically operated glass/panoramic sunroof, doors with Soft Close Automatic function, trailer coupling, heated steering wheel, active seats, navigation systems with hard disk storage, and high-quality audio and rear-seat entertainment systems deliver a further boost to comfort.

Almost all of the BMW ConnectedDrive driver assistance systems and mobility services laid on for the BMW 5 Series can also be specified here. Features such as the Park Distance Control system, rear-view camera, Adaptive Headlights, Head-Up Display, High-Beam Assistant, Active Cruise Control with Stop & Go function, Speed Limit Info, Lane Change Warning System, Lane Departure Warning System, Surround View and BMW Night Vision with pedestrian recognition are all available. Other innovative technologies enabling the link-up of the car with the outside world and the integration of mobile devices give drivers access to, among other things, the BMW Assist service (including Advanced Emergency Call with automatic position finding), BMW Online and internet, as well as the online services Facebook and Twitter, and Real-Time Traffic Information.



## 6. The BMW X5 M50d and BMW X6 M50d: Supreme power, outstanding efficiency.

- **Sports Activity Vehicle and Sports Activity Coupe with sharper profile; focus on torque and efficiency.**
- **M-specification chassis and xDrive tuning further enhances sports performance.**
- **Hallmark M handling and design.**

The global success of the BMW X model concept is rooted in a level of sporting flair unmatched by any other all-wheel-drive car with off-road capability. The powerful engines, advanced chassis technology and BMW xDrive all-wheel-drive system ( whose primary talent, in addition to maximising directional stability and traction on loose ground and in adverse weather conditions, lies in enhancing dynamic performance through corners) of the BMW X5 and BMW X6 provide driving pleasure beyond the reach of their segment rivals. Plus, the six-cylinder in-line diesel versions of the Sports Activity Vehicle and Sports Activity Coupe, in particular, impress with surprisingly low fuel consumption and emissions given their construction and performance capability.

The launch of the BMW M Performance Automobiles adds another layer to the BMW X models' reputation for presence, poise and efficiency. With the most powerful diesel in the BMW engine line-up and the optimisation of power transfer, handling and aerodynamic balance for which M is renowned, the BMW X5 M50d and BMW X6 M50d set new standards in their class in terms of sporting performance, conceptual harmony and efficiency.

### **M Performance TwinPower Turbo technology: an efficient route to enhanced sporting performance.**

Increased diesel power and an M-specific set-up make the BMW X5 M50d and BMW X6 M50d even more assured performers. The engine developed for the BMW M Performance Automobiles generates maximum output of 280 kW/381 hp and peak torque of 740 Newton metres (546 lb-ft), making the two BMW X models the envy of every other diesel-engined model in this

segment. The BMW X5 M50d races from 0 to 100 km/h (62 mph) in 5.4 seconds, while the BMW X6 M50d brings that time down to 5.3 seconds. Both models also benefit from the immense reserves of power provided by their diesel engine when it comes to short sprints at higher speeds. Top speed is electronically limited to 250 km/h (155 mph) in both cases.

The two models' frugal approach to fuel use offers further evidence of their impressive abilities. At 7.5 litres per 100 kilometres (37.7 mpg imp) and 7.7 l/100 km (36.7 mpg imp) respectively in the EU test cycle, the average fuel consumption figures of the BMW X5 M50d and BMW X6 M50d are only slightly above those for the existing diesel variants of the two models. CO<sub>2</sub> emissions stand at 199 grams per kilometre for the BMW X5 M50d and 204 grams per kilometre for the BMW X6 M50d.

Outstanding efficiency is a characteristic the eight-speed Sports automatic transmission in the BMW X5 M50d and BMW X6 M50d shares with the new diesel engine. Added to which, BMW EfficientDynamics technology guarantees intelligent energy management. Brake Energy Regeneration, the need-based operation of ancillary components and a disengageable air conditioning compressor are all standard.

**BMW xDrive: intelligent control, optimised to enhance dynamics.**

The BMW xDrive all-wheel-drive system uses an electronically controlled multi-plate clutch to distribute the engine's power between the front and rear wheels variably and according to the situation at hand. Indeed, drive can be switched between wheels in a split-second to optimise traction, directional stability and driving dynamics. xDrive and the DSC stability control system work together to provide advance analysis of the driving situation ahead. The ability to detect the danger of drive slip at an early stage and counteract one or several spinning wheels by varying the distribution of power has helped earn xDrive its status as an intelligent all-wheel-drive system.

In normal driving situations drive is sent predominantly to the rear wheels, accentuating the renowned handling characteristics of BMW cars.

The M-specific set-up of the BMW X5 M50d and BMW X6 M50d has been optimised to enhance dynamics, helping it to retain a rear-wheel bias under dynamic cornering. Even when the car is stable through corners, a larger

proportion of the engine's power is channelled to the rear axle to enhance agility and stave off understeer.

In addition, Performance Control enhances the handling agility of the BMW X5 M50d, while Dynamic Performance Control does a similar job for the BMW X6 M50d. As soon as the front wheels of the BMW X5 M50d start to push excessively to the outside of a corner, the control electronics of xDrive and DSC team up to brake the rear wheel on the inside of the bend as required. The loss of forward propulsion is balanced out by an increase in engine power, the intervention of Performance Control ensuring precise turn-in. Power distribution can be varied to an even greater degree in the BMW X6 M50d, which comes as standard with Dynamic Performance Control. This system reroutes engine output from the inside rear wheel to the outside rear wheel around a corner if the system detects an imminent risk of understeer. Dynamic Performance Control also counteracts oversteer in its early stages, switching drive from the outside rear wheel – which is experiencing particularly high centrifugal forces – to the inside rear wheel. Dynamic Performance Control also steps in to stabilise the car when the driver takes his foot off the accelerator, ensuring precise and agile turn-in and enabling extremely dynamic acceleration out of corners.

**M-specification chassis set-up produces accurate steering and precisely controllable handling.**

The chassis technology underpinning the BMW X5 M50d and BMW X6 M50d is based on a double-joint spring-strut front axle and integral rear axle. This arrangement offers the ideal platform for a sporty handling set-up which also achieves high standards of ride comfort. Both models also feature air suspension with automatic self-levelling at the rear axle. The support mounts, elastokinematics, spring and damper system, and Servotronic mapping of the hydraulic steering – among other things – have been modified to imbue the chassis set-up of the two BMW X models with hallmark M characteristics.

Stronger body mounting reduces roll, which in turn optimises steering accuracy through corners. At the same time, the linear build-up of lateral forces for which M cars are renowned enables precisely controllable handling up to the limit. The M-specification tuning of chassis components extends to the electronically controlled dampers and active anti-roll control function of

Adaptive Drive, which comes as standard on the BMW X6 M50d and is available as an option for the BMW X5 M50d. Meanwhile, the large-format braking system – with 385-millimetre front discs and 345-millimetre rear discs – provides powerful and consistent braking, even under heavy loads.

**Exclusive design features: aerodynamically optimised body, sporty interior ambience.**

Exclusive exterior and interior design features for the two BMW M Performance Automobiles based on the BMW X models provide clear visual differentiation, optimised aerodynamic balance and enhanced driving pleasure. Its powerful presence and distinctively three-dimensional contours make the body-coloured front apron a genuinely eye-catching item. To optimise the supply of cooling air to the power unit, the spaces normally reserved for foglamps on regular BMW X models take on a new role as air intakes, and these large surfaces offer a tantalising hint of the engine power lurking behind the scenes. Horizontal bars in the colour shade Ferric Grey metallic course across their surface. The race-inspired air-channelling flaps sited below the side air intakes optimise the cars' aerodynamic balance at high speeds.

Titanium-coloured vertical bars for the BMW kidney grille, exterior mirror caps in Ferric Grey metallic, a model badge on the tailgate and BMW High-gloss Shadow Line trim for the side window surrounds and exterior mirror bases add further model-specific touches. The BMW X5 M50d comes as standard with 19-inch M light-alloy wheels in V-spoke design, the BMW X6 M50d with 20-inch M light-alloy wheels in double-spoke design. Both models are also available with optional 20-inch M light-alloy wheels in Ferric Grey metallic developed exclusively for the BMW M Performance Automobiles and fitted with mixed tyres. The powerful appearance of the BMW X5 M50d is given additional presence by wheel arch extensions and bespoke side sills and kick plates, while the athletic stance of the BMW X6 M50d is underlined by a bonnet sporting a striking powerdome as standard. Both models also boast a muscular rear apron with the embellishers for the exhaust tailpipes integrated left and right.

The sporting driving pleasure served up by the BMW X5 M50d and BMW X6 M50d is summed up in their interiors by door sills bearing the

“M Performance” lettering, the inscription “M50d” in the instrument cluster, a gearshift lever with M logo, an M leather steering wheel with gearshift paddles, an M driver’s footrest, a BMW Individual roof liner in Anthracite and Brushed Aluminium Shadow interior trim strips. Both models are also fitted as standard with exclusive Alcantara/Nappa leather M sports seats offering electric adjustability and a memory function. The black seats are adorned with white contrast stitching and an embossed M logo.

Among the other items of standard equipment fitted on the BMW X5 M50d and BMW X6 M50d are xenon headlights with LED daytime driving lights, Cruise Control with braking function, 2-zone climate control, a rain sensor, the Radio Professional and the iDrive control system. Highlights of the options list include Comfort Access, automatic tailgate operation (standard on the BMW X6 M50d), a glass/panoramic sunroof, doors with Soft Close Automatic function, a trailer coupling, a heated steering wheel, active seats, navigation systems with hard disk storage and high-quality audio and rear-seat entertainment systems. Customers can also order the BMW X5 M50d with a third row of seats, while the BMW X6 M50d is available with optional Adaptive LED Headlights.

The range of driver assistance systems and mobility services from BMW ConnectedDrive offers a wide selection of options designed to optimise convenience, safety and the use of infotainment functions.

The BMW X5 M50d and BMW X6 M50d can be specified with equipment including Park Distance Control, a rear-view camera with Top View, Adaptive Headlights, the Head-Up Display, High-Beam Assistant, Active Cruise Control with Stop & Go function, and Speed Limit Info. Other innovative technologies enabling the link-up of the car with the outside world and the integration of mobile devices give drivers access to the BMW Assist service (including Advanced Emergency Call with automatic position finding and BMW Online), as well as unrestricted in-car internet usage. Real-Time Traffic Information, meanwhile, gives the driver extremely extensive and precise traffic information. Among the benefits of the likewise optional Apps function is access to online services Facebook and Twitter.

# 7. Specifications.

## BMW M550d xDrive Sedan.



BMW M550d xDrive Sedan		
<b>Body</b>		
No. of doors/seats		4 / 5
Length/width/height <sup>1)</sup> (unladen)	mm	4910 / 1860 / 1454
Wheelbase	mm	2968
Track, front/rear	mm	1594 / 1599
Ground clearance	mm	131
Turning circle	m	11.95
Tank capacity	approx. l	70
Cooling system incl heating	l	12.6
Engine oil <sup>2)</sup>	l	6.5
Weight, unladen, to DINEU	kg	1895 / 1970
Max load to DIN	kg	580
Max permissible weight	kg	2475
Max axle load, front/rear	kg	1240 / 1330
Max trailer load, braked (12%)/unbraked	kg	2000 / 750
Max roof load/towbar download	kg	100 / 90
Luggage comp capacity	l	520
Air drag	c <sub>d</sub> x A	0.31 x 2.35
<b>Engine</b>		
Configuration/No of cyls/valves		R / 6 / 4
Engine technology		M Performance TwinPower Turbo technology with three turbochargers, multi-stage charging and variable turbine geometry, common-rail direct injection (max pressure: 2200 bar)
Effective capacity	cm <sup>3</sup>	2993
Bore/stroke	mm	90.0 / 84.0
Compression ratio	:1	16.0
Fuel grade		diesel
Output	kW/hp	280 / 381
at	min <sup>-1</sup>	4000 – 4400
Torque	Nm	740
at	min <sup>-1</sup>	2000 – 3000
<b>Electrical system</b>		
Battery/Installation	Ah/–	90 / luggage comp
Alternator	AW	220 / 3080
<b>Driving dynamics and safety</b>		
Suspension, front		Double track control arm with separate lower track arm level, aluminium, M-specific damping and suspension tuning, small steering roll radius, anti-dive
Suspension, rear		Integral-V multi-arm axle, aluminium, double acoustic separation, M-specific damping and suspension tuning, with anti-dive and anti-squat
Brakes, front		Single-piston aluminium swing-calliper disc brakes in frame structure
Diameter	mm	374 x 36 / vented
Brakes, rear		Single-piston aluminium swing-calliper disc brakes
Diameter	mm	345 x 24 / vented
Driving stability systems		Standard: DSC incl. ABS and DTC (Dynamic Traction Control), CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant, DSC and xDrive all-wheel drive linked through ICM (Integrated Chassis Management); optional: Dynamic Damper Control, Adaptive Drive
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags for front and rear seats, three-point inertia-reel seatbelts on all seats with belt latch tensioner and belt force limiter at the front, crash-activated head restraints at the front, crash sensors, runflat tyres, Tyre Defect Indicator
Steering		Hydraulic rack-and-pinion steering with M-specific Servotronic function
Steering ratio, overall	:1	17.9
Tyres, front/rear		245/40 R19 94Y 275/35 R19 96Y
Rims, front/rear		8.5J x 19 LM 9J x 19 LM

**BMW ConnectedDrive**

Convenience	Optional: BMW Assist incl. Enquiry Service, remote-control functions, Real-Time Traffic Information, BMW TeleServices, integration of mobile devices
Infotainment	Optional: internet access, BMW Online incl. Park Info, National Info, Google Local Search, News, Realtime Weather, BMW Routes, Office functions, Bluetooth Audio Streaming, Online Update Music Tracks, Apps
Safety	Optional: Adaptive Headlights with cornering lights, variable light distribution and adaptive headlight range control, High Beam Assistant, Park Distance Control, rear-view camera, Surround View including Side View and Top View, BMW Night Vision with pedestrian recognition, Head-Up Display, collision warning with braking function in conjunction with Active Cruise Control with Stop & Go function, Lane Change Warning, Lane Departure Warning, Speed Limit Info, Active Protection, Automatic/Advanced Emergency Call

**Transmission**

Type of gearbox	Eight-speed automatic with Steptronic		
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.106
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	R	:1	3.317
Final drive		:1	2.813

**Performance**

Power-to-weight ratio (DIN kerb weight)	kg/kW	6.8
Output per litre	kW/l	93.6
Acceleration 0–100 km/h	s	4.7
	0–1000 m	23.7
in 4 <sup>th</sup> /5th gear 80–120 km/h	s	– / –
Top speed	km/h	250

**BMW EfficientDynamics**

BMW EfficientDynamics standard features	Brake Energy Regeneration with recuperation display, Auto Start-Stop function, ECO PRO mode, intelligent lightweight construction, on-demand operation of ancillary units, detachable a/c compressor, BMW BluePerformance technology
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**Fuel consumption EU**

with standard tyres		
Urban	l/100km	7.1
Extra-urban	l/100km	5.8
Combined	l/100km	6.3
CO <sub>2</sub>	g/km	165
Emission rating		EU6

**Insurance group**

3P / FCC / FC	23 / 30 / 30
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Specifications apply to ACEA markets; data relevant to homologation applicable in part only to Germany (weight)

<sup>1)</sup> Height including roof fin: 1465 millimetres

<sup>2)</sup> Oil change

# BMW M550d xDrive Touring.

## BMW M550d xDrive Touring

### Body

No. of doors/seats		5 / 5
Length/width/height <sup>1)</sup> (unladen)	mm	4910 / 1860 / 1462
Wheelbase	mm	2968
Track, front/rear	mm	1594 / 1620
Ground clearance	mm	131
Turning circle	m	11.95
Tank capacity	approx. l	70
Cooling system incl heating	l	12.6
Engine oil <sup>2)</sup>	l	6.5
Weight, unladen, to DIN/EU	kg	1990 / 2065
Max load to DIN	kg	580
Max permissible weight	kg	2570
Max axle load, front/rear	kg	1240 / 1450
Max trailer load, braked (12%/unbraked)	kg	2000 / 750
Max roof load/towbar download	kg	100 / 90
Luggage comp capacity	l	560 – 1670
Air drag	$c_d \times A$	0.32 x 2.35

### Engine

Configuration/No of cyls/valves		R / 6 / 4
Engine technology		M Performance TwinPower Turbo technology with three turbochargers, multi-stage charging and variable turbine geometry, common-rail direct injection (max pressure: 2200 bar)
Effective capacity	cm <sup>3</sup>	2993
Bore/stroke	mm	90.0 / 84.0
Compression ratio	:1	16.0
Fuel grade		Diesel
Output	kW/hp	280 / 381
at	min <sup>-1</sup>	4000 – 4400
Torque	Nm	740
at	min <sup>-1</sup>	2000 – 3000

### Electrical system

Battery/Installation	Ah/–	90 / luggage comp
Alternator	AW	220 / 3080

### Driving dynamics and safety

Suspension, front	Double track control arm with separate lower track arm level, aluminium, M-specific damping and suspension tuning, small steering roll radius, anti-dive	
Suspension, rear	Integral-V multi-arm axle, aluminium, double acoustic separation, M-specific damping and suspension tuning, with anti-dive and anti-squat, air suspension with automatic self-levelling	
Brakes, front	Single-piston aluminium swing-calliper disc brakes in frame structure	
Diameter	mm	374 x 36 / vented
Brakes, rear	Single-piston aluminium swing-calliper disc brakes	
Diameter	mm	345 x 24 / vented
Driving stability systems	Standard: DSC incl. ABS and DTC (Dynamic Traction Control), CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant, DSC and xDrive all-wheel drive linked through ICM (Integrated Chassis Management); optional: Dynamic Damper Control, Adaptive Drive	
Safety equipment	Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags for front and rear seats, three-point inertia-reel seatbelts on all seats with belt latch tensioner and belt force limiter at the front, crash-activated head restraints at the front, crash sensors, runflat tyres, Tyre Defect Indicator	
Steering	Hydraulic rack-and-pinion steering with M-specific Servotronic function	
Steering ratio, overall	:1	17.9
Tyres, front/rear		245/40 R19 98Y
Rims, front/rear		8.5J x 19 LM

**BMW M550d xDrive Touring**

**BMW ConnectedDrive**

Convenience	Optional: BMW Assist incl. Enquiry Service, remote-control functions, Real-Time Traffic Information, BMW TeleServices, integration of mobile devices
Infotainment	Optional: internet access, BMW Online incl. Park Info, National Info, Google Local Search, News, Realtime Weather, BMW Routes, Office functions, Bluetooth Audio Streaming, Online Update Music Tracks, Apps
Safety	Optional: Adaptive Headlights with cornering lights, variable light distribution and adaptive headlight range control, High Beam Assistant, Park Distance Control, rear-view camera, Surround View including Side View and Top View, BMW Night Vision with pedestrian recognition, Head-Up Display, collision warning with braking function in conjunction with Active Cruise Control with Stop & Go function, Lane Change Warning, Lane Departure Warning, Speed Limit Info, Active Protection, Automatic/Advanced Emergency Call

**Transmission**

Type of gearbox	Eight-speed automatic with Steptronic		
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.106
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	R	:1	3.317
Final drive		:1	2.647

**Performance**

Power-to-weight ratio (DIN kerb weight)	kg/kW	7.1
Output per litre	kW/l	93.6
Acceleration 0–100 km/h	s	4.9
	0–1000 m	24.1
in 4 <sup>th</sup> /5th gear 80–120 km/h	s	– / –
Top speed	km/h	250

**BMW EfficientDynamics**

BMW EfficientDynamics standard features	Brake Energy Regeneration with recuperation display, Auto Start-Stop function, ECO PRO mode, intelligent lightweight construction, on-demand operation of ancillary units, detachable a/c compressor, BMW BluePerformance technology
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**Fuel consumption EU**

with standard tyres		
Urban	l/100km	7.2
Extra-urban	l/100km	6.0
Combined	l/100km	6.4
CO <sub>2</sub>	g/km	169
Emission rating		EU6

**Insurance group**

3P / FCC / FC	23 / 30 / 30
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Specifications apply to ACEA markets; data relevant to homologation applicable in part only to Germany (weight)

<sup>1)</sup> Height including roof fin: 1488 millimetres

<sup>2)</sup> Oil change

# BMW X5 M50d.

<b>BMW X5 M50d</b>	
<b>Body</b>	
No. of doors/seats	5 / 5 (7) <sup>1)</sup>
Length/width/height (unladen)	4857 / 2010 / 1766
Wheelbase	2933
Track, front/rear	1644 / 1706
Ground clearance	12.8
Turning circle	approx. l 85
Tank capacity	l 13.0
Cooling system incl heating	L 6.5
Engine oil <sup>2)</sup>	Kg 2150 / 2225
Weight, unladen, to DIN/EU	kg 680
Max load to DIN	kg 2830
Max permissible weight	kg 1340 / 1555
Max axle load, front/rear	kg 3500 / 750
Max trailer load,	kg 100 / 140
Max roof load/towbar download	l 620-1750
Luggage comp capacity	c <sub>d</sub> x A 0.38 x 2.87
Air drag	
<b>Engine</b>	
Configuration/No of cyls/valves	R / 6 / 4 M Performance TwinPower Turbo technology with three turbochargers, multi-stage charging and variable turbine geometry, common-rail direct injection (max pressure: 2200 bar)
Engine technology	cm <sup>3</sup> 2993
Effective capacity	mm 90.0 / 84.0
Bore/stroke	:1 16.0
Compression ratio	diesel
Fuel grade	kW/hp 280 / 381
Output	min <sup>-1</sup> 4000-4400
at	Nm 740
Torque	min <sup>-1</sup> 2000-3000
at	
<b>Electrical system</b>	Ah/- 90 / luggage comp
Battery/Installation	AW 180 / 2520
Alternator	
<b>Driving dynamics and safety</b>	
Suspension, front	Double track control arm with M-specific elastokinematics, damping and suspension tuning, small, negative steering roll radius, anti-dive
Suspension, rear	Integral-IV rear axle with M-specific elastokinematics, damping and suspension tuning, spatial suspension with anti-squat and anti-dive, air suspension with automatic self-levelling
Brakes, front	Twin-piston fixed-calliper disc brakes
Diameter	385 x 36 / vented
Brakes, rear	Single-piston fixed-calliper disc brakes
Diameter	345 x 24 / vented
Driving stability systems	Standard: DSC incl. ABS and DTC (Dynamic Traction Control), CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant; DSC linked with xDrive all-wheel drive through ICM (Integrated Chassis Management), ADB-X (Automatic Differential Brake), HDC (Hill Descent Control), optional: Adaptive Drive
Safety equipment	Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags for front and rear seats, crash-activated head restraints at the front, three-point inertia-reel seatbelts on all seats with belt latch tensioner, belt force limiter and belt stopper at the front, crash sensors, rollover sensors, Tyre Defect Indicator
Steering	Hydraulic rack-and-pinion steering with M-specific Servotronic function
Steering ratio, overall	:1 19.5
Tyres, front/rear	255/50 R19 107V RSC / 285/45 R19 111V RSC
	9J x 19 LM / 10J x 19 LM

**BMW X5 M50d**

**BMW ConnectedDrive**

Convenience	Optional: BMW Assist incl. Enquiry Service, remote-control functions, Real-Time Traffic Information, BMW TeleServices, integration of mobile devices
Infotainment	Optional: internet access, BMW Online incl. Park Info, National Info, Google Local Search, News, Realtime Weather, BMW Routes, Office functions, Bluetooth Audio Streaming, Online Update Music Tracks, Apps
Safety	Optional: Adaptive Headlights, High Beam Assistant, Park Distance Control, Side View, rear-view camera with Top View, Head-Up Display, Active Cruise Control with Stop & Go function, Speed Limit Info, Automatic/Advanced Emergency Call

**Transmission**

Type of gearbox	Eight-speed automatic with Steptronic		
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.106
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	R	:1	3.317
Final drive		:1	3.154

**Performance**

Power-to-weight ratio (DIN kerb weight)	kg/kW	7.7
Output per litre	kW/l	93.6
Acceleration 0–100 km/h	s	5.4
	0–1000 m	24.9
in 4 <sup>th</sup> /5th gear 80–120 km/h	s	-
Top speed	km/h	250

**Offroad specifications**

Overhang angle, front/rear	°	25.5 / 22.7
Ramp angle	°	19.8
Ground clearance unladen	mm	222
Fording depth (at 7 km/h)	mm	500

**BMW EfficientDynamics**

BMW EfficientDynamics standard features	Brake Energy Regeneration, on-demand operation of ancillary units, intelligent lightweight construction, detachable a/c compressor
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**Fuel consumption EU**

Urban	l/100km	8.8
Extra-urban	l/100km	6.8
Combined	l/100km	7.5
CO <sub>2</sub>	g/km	199
Emission rating		EU5

**Insurance group**

3P / FCC / FC	3 <sup>1)</sup>
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Specifications apply to ACEA markets; data relevant to homologation applicable in part only to Germany (weight)

<sup>1)</sup> With optional 3rd row of seats

<sup>2)</sup> Oil change

<sup>3)</sup> Data not yet available

# BMW X6 M50d.

<b>BMW X6 M50d</b>		
<b>Body</b>		
No. of doors/seats		5 / 4 (5) <sup>1)</sup>
Length/width/height (unladen)	mm	4877 / 1983 / 1699 <sup>2)</sup>
Wheelbase	mm	2933
Track, front/rear	mm	1644 / 1706
Ground clearance	m	12.8
Turning circle	approx. l	85
Tank capacity	l	13.0
Cooling system incl heating	l	6.5
Engine oil <sup>2)</sup>	kg	2150 / 2225
Weight, unladen, to DIN/EU	kg	650
Max load to DIN	kg	2800
Max permissible weight	kg	1350 / 1515
Max axle load, front/rear	kg	2700 (3500) <sup>4)</sup> / 750
Max trailer load,	kg	100 / 120 (140) <sup>3)</sup>
Max roof load/towbar download	l	570-1450
Luggage comp capacity	c <sub>d</sub> x A	0.37 x 2.82
Air drag		
<b>Engine</b>		
Configuration/No of cyls/valves		R / 6 / 4 M Performance TwinPower Turbo technology with three turbochargers, multi-stage charging and variable turbine geometry, common-rail direct injection (max pressure: 2200 bar)
Engine technology	cm <sup>3</sup>	2993
Effective capacity	mm	90.0 / 84.0
Bore/stroke	:1	16.0
Compression ratio		Diesel
Fuel grade	kW/hp	280 / 381
Output	min <sup>-1</sup>	4000-4400
at	Nm	740
Torque	min <sup>-1</sup>	2000-3000
at		
<b>Electrical system</b>		
Battery/Installation	Ah/-	105 / luggage comp
Alternator	AW	180 / 2520
<b>Driving dynamics and safety</b>		
Suspension, front		Double track control arm with M-specific elastokinematics, damping and suspension tuning, small, negative steering roll radius, anti-dive
Suspension, rear		Integral-IV rear axle with M-specific elastokinematics, damping and suspension tuning, spatial suspension with anti-squat and anti-dive, air suspension with automatic self-levelling
Brakes, front	mm	Twin-piston fixed-calliper disc brakes 385 x 36 / vented
Diameter		Single-piston fixed-calliper disc brakes
Brakes, rear	mm	345 x 24 / vented
Diameter		Standard: DSC incl. ABS and DTC (Dynamic Traction Control), CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant; DSC linked with xDrive all-wheel drive through ICM (Integrated Chassis Management), Dynamic Performance Control, HDC (Hill Descent Control), Adaptive Drive
Driving stability systems		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, crash-activated head restraints at the front, three-point inertia-reel seatbelts on all seats with belt latch tensioner, belt force limiter and belt stopper at the front, crash sensors, rollover sensors, Tyre Defect Indicator
Safety equipment		Hydraulic rack-and-pinion steering with M-specific Servotronic function
Steering	:1	19.5
Steering ratio, overall		275/40 R20 106Y RSC / 315/35 R20 110Y RSC
Tyres, front/rear		10J x 20 LM / 11J x 20 LM

**BMW X6 M50d**

**BMW ConnectedDrive**

Convenience	Optional: BMW Assist incl. Enquiry Service, remote-control functions, Real-Time Traffic Information, BMW TeleServices, integration of mobile devices
Infotainment	Optional: internet access, BMW Online incl. Park Info, National Info, Google Local Search, News, Realtime Weather, BMW Routes, Office functions, Bluetooth Audio Streaming, Online Update Music Tracks, Apps
Safety	Optional: Adaptive Headlights, High Beam Assistant, Park Distance Control, Side View, rear-view camera with Top View, Head-Up Display, Active Cruise Control with Stop & Go function, Speed Limit Info, Automatic/Advanced Emergency Call

**Transmission**

Type of gearbox	Eight-speed automatic with Steptronic		
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.106
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	R	:1	3.317
Final drive		:1	3.154

**Performance**

Power-to-weight ratio (DIN kerb weight)	kg/kW	7.7
Output per litre	kW/l	93.6
Acceleration	0–100 km/h	s
	0–1000 m	s
	in 4 <sup>th</sup> /5th gear	km/h
	80–120 km/h	250

**Offroad specifications**

Overhang angle, front/rear	°	25.1 / 25.5
Ramp angle	°	19.1
Ground clearance unladen	mm	212

**BMW EfficientDynamics**

BMW EfficientDynamics standard features	Brake Energy Regeneration, on-demand operation of ancillary units, intelligent lightweight construction, detachable a/c compressor
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**Fuel consumption EU**

Urban	l/100km	9.0
Extra-urban	l/100km	7.0
Combined	l/100km	7.7
CO <sub>2</sub>	g/km	204
Emission rating		EU5

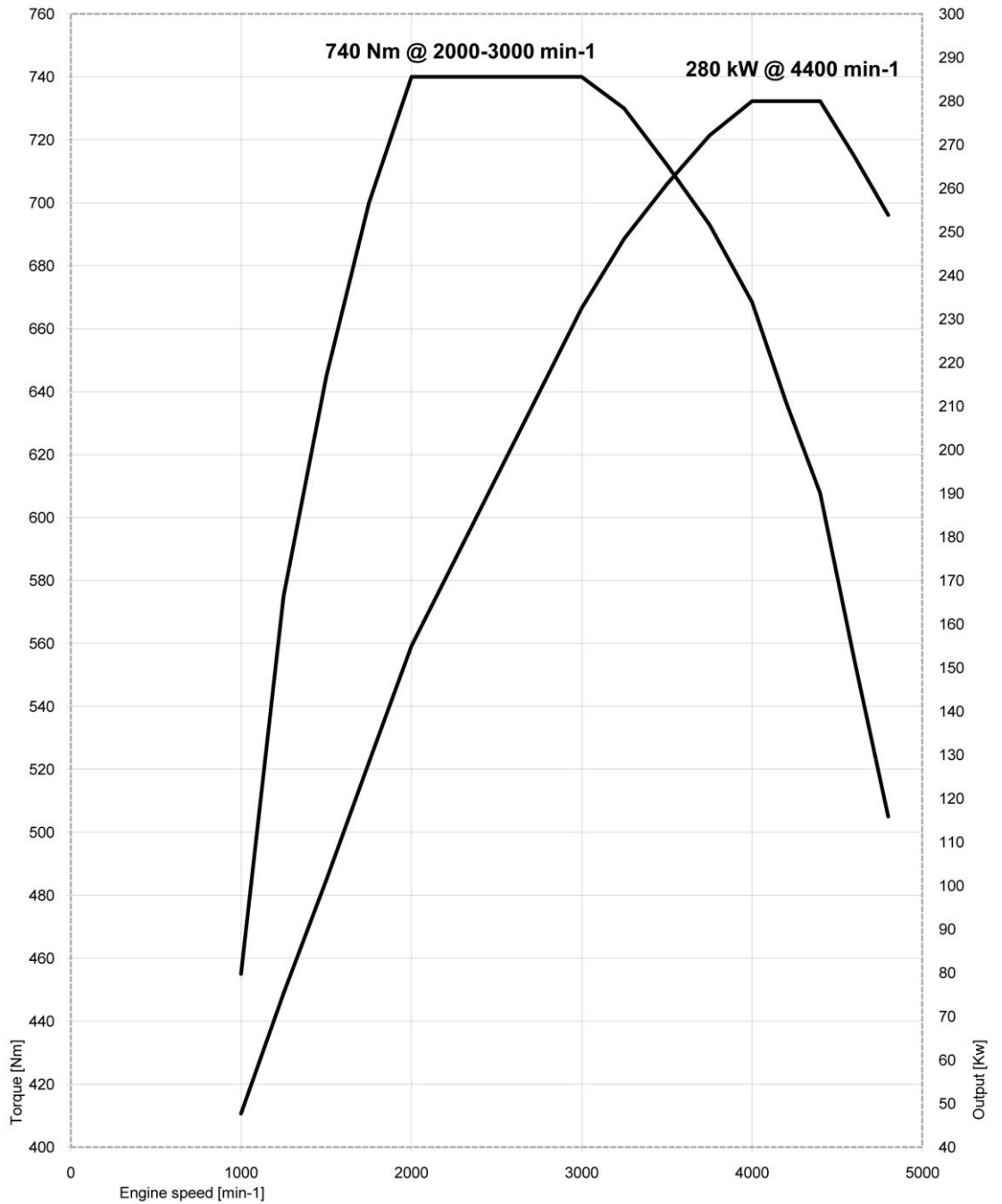
**Insurance group**

3P / FCC / FC	5)
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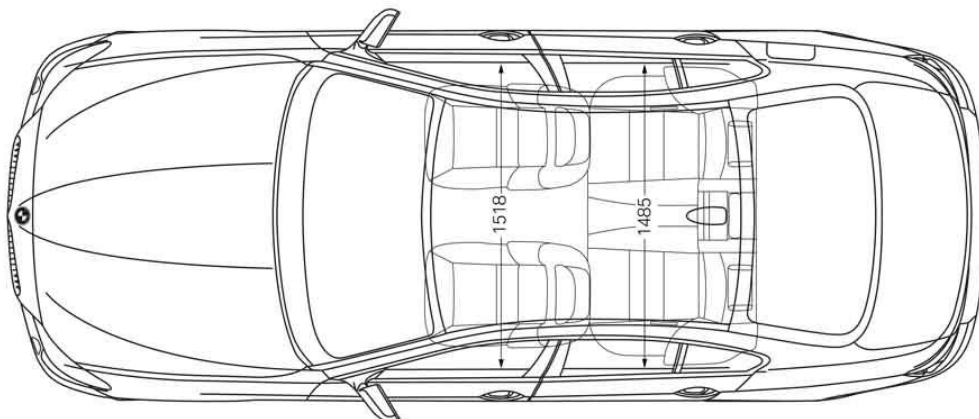
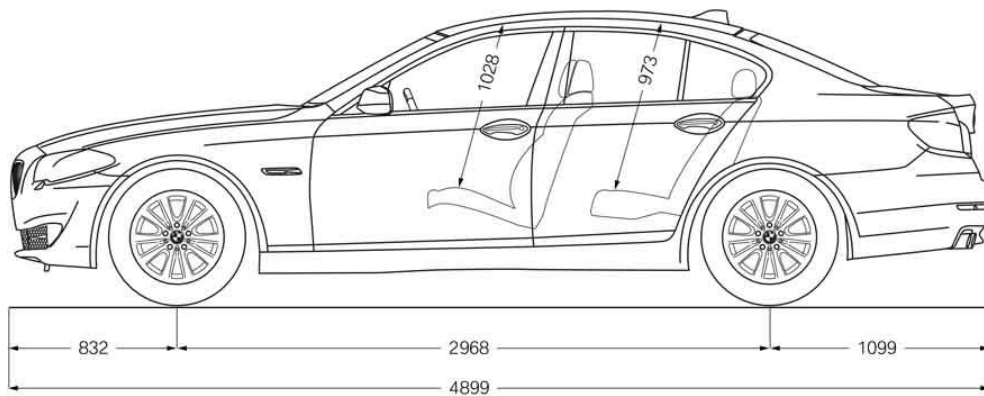
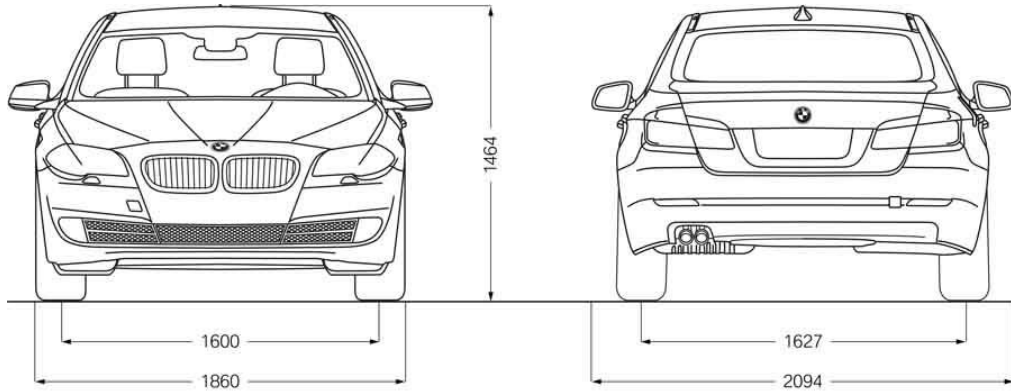
Specifications apply to ACEA markets; data relevant to homologation applicable in part only to Germany (weight)

- 1) With optional three-seat rear bench
- 2) Height without roof aerial: 1690 mm
- 3) Oil change
- 4) With optional increased trailer load in conjunction with self-levelling incl. air suspension
- 5) Data not yet available

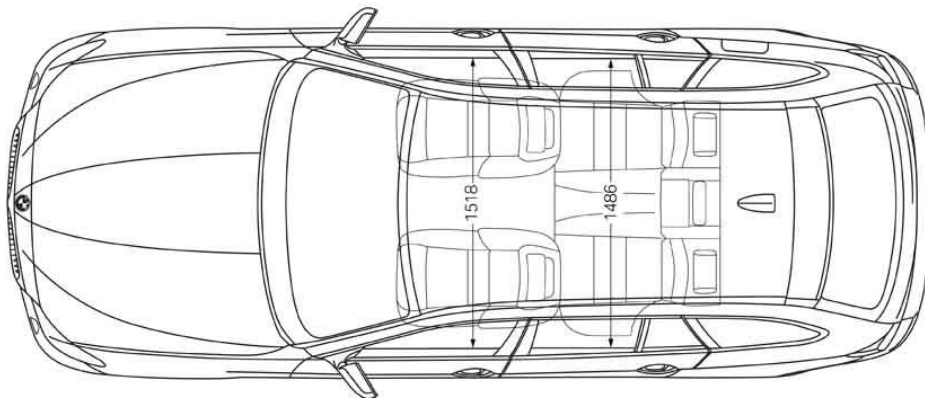
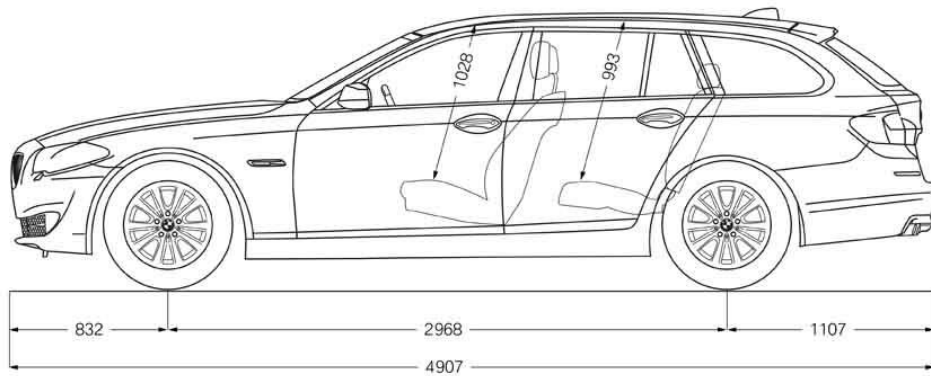
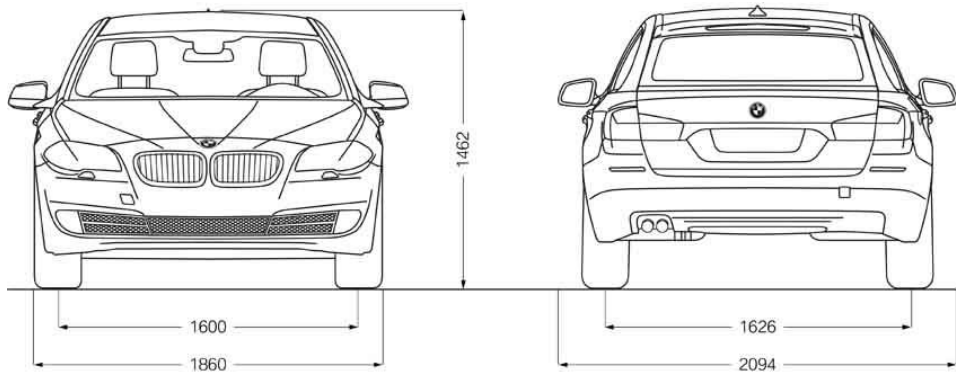
## 8. Output and torque diagrams.



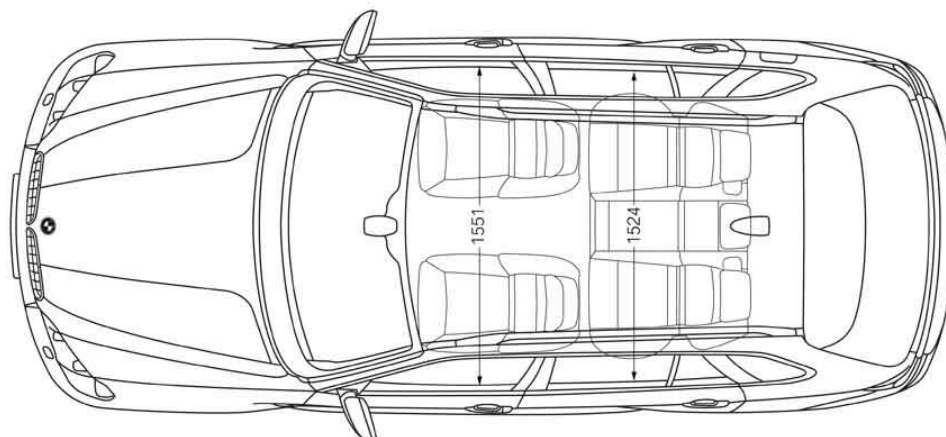
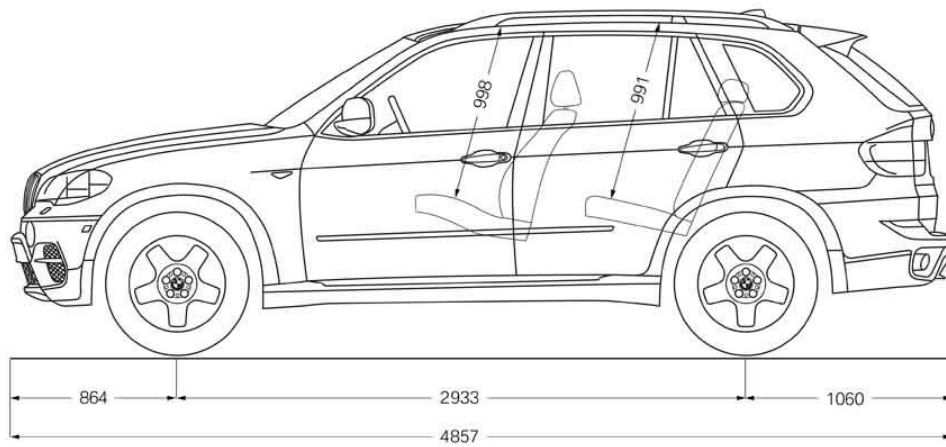
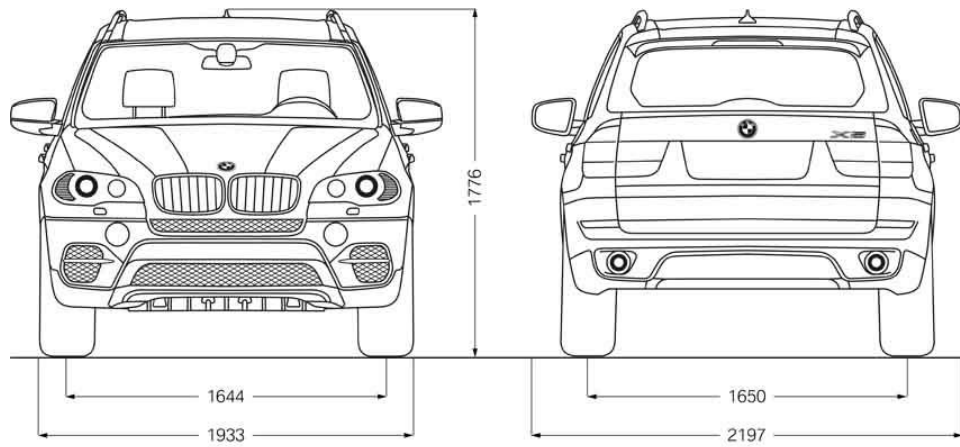
## 9. Exterior and interior dimensions. BMW M550d xDrive Sedan.



# BMW M550d xDrive Touring.



# BMW X5 M50d.



# BMW X6 M50d.

