

The new BMW M5.

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At a glance.



- Fifth generation of the world's most successful high-performance saloon in the premium segment of the executive class; new BMW M5 is an exceptionally dynamic high-performance sports car with four doors and five seats; consistent further development of the vehicle concept initiated in 1984 with the first-generation BMW M5; compelling track potential combines with the comprehensive practicality of a luxurious business saloon; groundbreaking character headlined by significantly improved efficiency, supreme long-distance comfort, and innovative driver assistance systems and infotainment functions.
- World premiere of a newly developed BMW M high-performance engine: high-revving 4.4-litre V8 engine with M TwinPower Turbo package – consisting of Twin Scroll Twin Turbo technology, cross-bank exhaust manifold, High Precision Injection petrol direct injection and VALVETRONIC fully variable valve control; 412 kW/560 hp at 6,000 – 7,000 rpm, maximum torque: 680 Newton metres (502 lb-ft) from 1,500 rpm; lag-free power delivery, typical M car thrust.
- Significantly improved balance between performance and fuel consumption: acceleration 0–100 km/h (62 mph) in 4.4 seconds, 0–200 km/h (124 mph) in 13.0 seconds, top speed: 250 km/h / 155 mph (305 km/h / 190 mph with M Driver's Package); average fuel consumption in EU test cycle: 9.9 litres/100 km (28.5 mpg imp); engine output 10 per cent up on predecessor model, maximum torque increased by 30 per cent, fuel consumption cut by more than 30 per cent; extensive Efficient Dynamics technology, including Auto Start-Stop function and Brake Energy Regeneration.
- Power transfer to the rear wheels via the seven-speed M Double Clutch Transmission Drivelogic; traction-optimised automatic gear selection; Launch Control; Low Speed Assistance; automatically activated parking mode; M-specific gear selector; M leather steering wheel with shift paddles.
- Hallmark M conceptual harmony produces superior performance characteristics with precise interplay of drive and chassis technology, aerodynamics and weight balance; power-to-weight ratio: 3.3 kg

- (approx. 7 lb)/hp; M-specific suspension (front and rear axle kinematics), M Servotronic steering, Dynamic Damper Control, DSC stability control system including M Dynamic Mode; bodyshell mounting using special panels; lightweight compound high-performance braking system.
- Outstandingly agile handling thanks to innovative rear axle differential with Active M Differential; electronically controlled multi-plate limited-slip differential enables fully variable distribution of drive between the rear wheels to optimise traction and stability in dynamic lane change manoeuvres and acceleration out of corners; degree of lock can be varied between 0 and 100 per cent according to the situation; fast, precise and pre-emptive responses thanks to constant data cross-checking between the Active M Differential and DSC stability control system, and monitoring of the accelerator pedal position, wheel speed and yaw rate.
 - Two individually configured set-ups for the car can be called up using the new M Drive buttons on the steering wheel; range of programmable parameters unique in the segment: accelerator responses, M Servotronic responses, Drivelogic shift program, DSC mode, Dynamic Damper Control and information in the Head-Up Display.
 - Characteristic body design with familiar M aesthetics reflecting the car's extremely dynamic yet precisely controllable nature; specific design features contributing to performance characteristics; front apron with extremely large air intakes for the engine and brakes; athletically flared wheel arches to emphasise wide track; hallmark M "gills" with integrated indicator bars; aerodynamically optimised rear apron with diffuser between the right and left-hand pair of twin exhaust tailpipes; gurney-style rear spoiler on the boot lid; 19-inch M light-alloy wheels in exclusive double-spoke design.
 - Unique combination of sports car cockpit and luxurious ambience for the interior; M-specific instrument cluster in black-panel technology; newly designed, leather-covered centre console; M sports seats; standard specification also includes: Merino leather upholstery with extended features, exclusive Aluminium Trace interior trim strips, BMW Individual roof liner in Anthracite, electrically operated steering column adjustment, four-zone automatic climate control and ambient light.
 - Extensive range of driver assistance systems and mobility services from BMW ConnectedDrive unmatched by competitors in this segment and beyond: M-specific Head-Up Display (standard), Adaptive Headlights for

standard xenon light, High-Beam Assistant, BMW Night Vision with pedestrian recognition, Lane Change Warning System, Lane Departure Warning System, Surround View, Speed Limit Info, internet usage, extended integration of smartphones and music players, real-time traffic information and apps for receiving Web Radio and using Facebook and Twitter.

- Almost all BMW 5 Series Saloon equipment options available, including Comfort Access, M multifunction seats, active seats, doors with Soft Close Automatic function, hands-free tailgate opening, electric glass roof, trailer coupling.

- Specifications and performance:

BMW M5: V8 petrol engine, M TwinPower Turbo technology with Twin Scroll Twin Turbo, cross-bank exhaust manifold, High Precision Injection direct injection and VALVETRONIC variable valve control.

Displacement: 4,395 cc, output: 412 kW/560 hp at 6,000 – 7,000 rpm, max. torque: 680 Nm (502 lb-ft) at 1,500 – 5,750 rpm.

Acceleration 0 – 100 km/h (62 mph): 4.4 seconds,

acceleration 0 – 200 km/h (124 mph): 13.0 seconds,

top speed: 250 km/h / 155 mph (305 km/h / 190 mph with M Driver's Package).

Average fuel consumption: 9.9 litres/100 kilometres (28.5 mpg imp),

CO₂ emissions: 232 g/km, exhaust standard: EU5.

Leading power: The new BMW M5.



A change in leadership is nigh in the exclusive segment that brings together ultra-dynamic business saloons with track-oriented drive and chassis technology. The new BMW M5 is poised to build on the tradition of its predecessors and once again redefine the performance experience available in a four-door car. Displaying the conceptual harmony, state-of-the-art technology and astonishingly dynamic handling for which BMW M cars have become renowned, the fifth-generation BMW M5 stirs the passion of keen drivers for top performance and blends it, in inimitable style, with the universal qualities of a top-class premium saloon. The most powerful engine ever fitted in a series-produced model from BMW M GmbH, the innovative Active M Differential – which optimises power transfer to the rear wheels – and model-specific chassis technology developed on the back of extensive racing expertise all secure the BMW M5 a dominant position in the high-performance saloon market.

The new BMW M5 is a high-performance sports car whose exceptional dynamic potential is geared squarely to the demands of track use yet which also sets a new benchmark in everyday driving with its supreme touring comfort and innovative equipment features. It also sets the pace in its class in terms of efficiency. The car's history of success in a segment founded more than 25 years ago by the original BMW M5 is set to continue in thrillingly contemporary style.

Under the bonnet of the new BMW M5 lies a newly developed, high-revving V8 engine with M TwinPower Turbo (consisting of Twin Scroll Twin Turbo technology, a cross-bank exhaust manifold, High Precision Injection petrol direct injection and VALVETRONIC fully variable valve control), maximum output of 412 kW/560 hp at 6,000 – 7,000 rpm and peak torque of 680 Newton metres (502 lb-ft) between 1,500 and 5,750 rpm. The instantaneous power delivery and sustained thrust familiar from M cars are the key to acceleration of 0 – 100 km/h (62 mph) in 4.4 seconds (0 – 200 km/h/124 mph: 13.0 seconds). Average fuel consumption in the EU test cycle stands at 9.9 litres per 100 kilometres / 28.5 mpg imp

(CO₂ emissions: 232 g/km). While output has increased by around 10 per cent and maximum torque is up by more than 30 per cent, the new BMW M5 burns over 30 per cent less fuel than its predecessor.

The significantly improved balance between the performance-focused M experience and the car's fuel consumption stems from the exceptionally impressive efficiency of the new V8 engine and from far-reaching Efficient Dynamics technology including the Auto Start-Stop function in conjunction with the standard seven-speed M Double Clutch Transmission Drivelogic. In order to channel the engine's imposing power development into inspiring performance characteristics, the new BMW M5 boasts chassis technology – including electronically controlled dampers, M-specific Servotronic steering, a stability control system with M Dynamic Mode and high-performance compound brakes – developed on the back of racing expertise and tuned to the output profile of the powerplant.

This technology combines with model-specific design features – which make a direct contribution to optimising the supply of cooling air and enhancing aerodynamic characteristics – to create the conceptual harmony typical of BMW M cars. The precise interplay of the drive system, chassis and design has been refined in extensive and detailed testing on the Nordschleife circuit at the Nürburgring, to ensure unbeatable longitudinal and lateral acceleration, handling characteristics and braking performance.

The interior design, control concept and innovative equipment features of the new car also play their part in creating the exclusive M experience. Sports seats, an M leather steering wheel, and an M-specific instrument cluster and centre console lend the cockpit a classical sports car feeling. For the first time, two M Drive buttons have been fitted as standard for the driver to call up the ideal car set-up for the situation at hand. High-quality, precisely finished materials, generous levels of space and the extensive range of equipment fitted as standard generate the premium ambience – laced with cutting-edge luxury – of a BMW 5 Series model. Added to which, customers can also give their car the personal touch, since virtually the full range of options for the BMW 5 Series Saloon are also available for the M5, including a host of driver assistance systems and mobility services from BMW ConnectedDrive.

Body design: hallmark M design elements make a genuine contribution to meeting technical requirements.

The design of the body faithfully showcases the standout characteristics of the new BMW M5. The dynamic proportions and stylishly authoritative appearance of the BMW 5 Series Saloon has been further enhanced by the addition of M-specific design features. The carefully selected modifications are geared precisely to meeting the technical demands of the car, making them a central element of the high-performance Saloon's overall concept. The car's extraordinary potential is highlighted subtly and with impressive authenticity by the distinctive design elements on its front, sides and rear end. The design of the front apron clearly embodies the supreme power of the new V8 engine. The contour lines of the bonnet converge in a V to the brand's hallmark double-kidney grille. The wide-spread arrangement of the customary M black slats – like the three air intakes in the lower section of the front apron – emphasise the cooling air requirement of the engine behind the grille. The arrangement of the air intakes over various levels creates an impressive depth which underlines the dynamic, forward-thrusting appearance of the Saloon.

Dynamically formed intakes ensure precise airflow and optimum cooling.

The functional significance of the forward-projecting central aperture is emphasised by the width of the car, which spreads out towards the road surface, and the protruding form of the contour lines. The two side air intakes, meanwhile, have a dynamically curving form. Positioned far to the outer edges of the car, they emphasise its wide track and fill the spaces in the front apron the BMW 5 Series Saloon normally reserved for foglamps. At the lower edge of the front end, air-channelling flaps developed on the race track ensure optimised aerodynamics.

The standard-fitted bi-xenon headlights of the new BMW M5 generate daytime running light with visually unique LED light rings. The indicator lights positioned on the car's outer edges each consist of 10 LED units. LED accent lights cut across the top of the customary BMW twin round headlights to perfect the intent look – both during the day and in night-time driving – characteristic of BMW models.

**Prominently flared wheel arches, three-dimensional gills,
eye-catching side skirts.**

The long wheelbase, set-back passenger compartment and High-gloss Black side window borders clearly accentuate the stretched silhouette of the new BMW M5. Muscular flared wheel arches spotlight the wide track, which helps give the car its unshakable roadholding and impressive lateral acceleration. Wheels sitting flush with the bodywork and lowered suspension – a gift from the specially tuned chassis – enhance the car's sporting presence when viewed from the side. The model-specific 19-inch M light-alloy wheels in double-spoke design also assist in this regard. The lightweight construction of the optional 20-inch forged rims is highlighted by their five slim double spokes. This design clears a line of sight to the high-performance brakes with six-piston fixed callipers, hinting at the precision with which the driver can adjust the car's handling.

Elsewhere, the front side sections carry a fresh take on the hallmark M gills. The three-dimensional shaping, a wide chrome frame and the free-floating look of the indicator bar, which bears the M logo, give the intakes an extremely deep-set look. The mirror casings are painted in body colour, the mirror base and lower edge in High-gloss Black.

The side skirts of the new BMW M5 also have a design very much of their own. A particularly powerful bulge at the back end of the skirts and a crease rising slightly to the tail divert the eye to the rear wheel arches – and therefore to the driven axle of the high-performance model.

Broad, powerful tail generates optimum airflow.

The design of the tail provides an effective expression of the superior sports performance and supreme roadholding of the new BMW M5. As with the BMW 5 Series Saloon, the focus on the car's width through the predominance of horizontal lines is lent additional emphasis by an athletically formed rear apron. The bespoke rear apron of the M5 provides a fluid transition into the wide wheel arches, drawing even more attention to the drive forces channelled through the rear wheels.

A diffuser integrated into the lower edge of the rear apron provides efficient airflow through the back end of the underfloor section. A signature M feature of the new BMW M5 is the twin-pipe exhaust system, whose tailpipes are

positioned wide to either side of the diffuser and have likewise aerodynamically formed surrounds. The subtle gurney-style rear spoiler on the boot lid also aids the car's aerodynamics by providing additional downforce at high speeds, in particular, and therefore contributing to the Saloon's assured handling at all times.

The L-shaped rear lights fit the brand's template, down to the distinctive night-time look. Three LED-powered light strips shape the face of the characteristically homogeneous units, and the direction indicators and braking light are also fed by LED units. The reflectors are arranged immediately below the rear lights. This is higher up within the rear apron than they find themselves on the regular BMW 5 Series Saloon and accentuates the car's powerful, muscular form particularly strongly.

The drive system: high-revving V8 engine with M TwinPower Turbo technology sets new standards in output and efficiency.

The new BMW M5 adds a fresh, contemporary and fascinating angle to a variety of distinctive features. This applies to both a vehicle concept now in its fifth generation and the car's engine technology. For the first time, a BMW M5 has a turbocharged engine to thank for its outstanding dynamics. The high-revving V8 unit with M TwinPower Turbo technology lends a whole new intensity to the powerful thrust sustained into the higher rev ranges for which M cars are renowned. The 4.4-litre engine develops top output of 412 kW/560 hp at 6,000 – 7,000 rpm, while its maximum torque of 680 Newton metres (502 lb-ft) is on tap between 1,500 and 5,750 rpm. The rev limiter intervenes at 7,200 rpm. The rev band, which offers extremely dynamic acceleration between the arrival of peak torque and the availability of maximum output, is therefore almost three times as wide as that of the predecessor unit.

The drive unit in the new BMW M5 mobilises the highest output ever generated by a BMW M car, and at the same time provides the most efficient balance yet between performance and fuel consumption. The new engine produces around 10 per cent higher output than its predecessor and torque is up by over 30 per cent. Fuel consumption and CO₂, meanwhile, have been cut by more than 30 per cent. This progress in terms of both driving dynamics and

efficiency marks the new BMW M5 out as an extremely pioneering interpretation of a premium high-performance saloon.

The driver can use a button on the centre console to adjust the engine's performance characteristics to the demands of the situation and his own individual preferences. "Efficient", "Sport" and "Sport Plus" modes are available.

Racing know-how and unparalleled development expertise: the ideal basis for maximum output and unbeatable efficiency.

The M TwinPower Turbo package of technology developed for the engine powering the new BMW M5 combines design features derived directly from motor racing with innovations spawned by the rigorous implementation of the Efficient Dynamics strategy. It comprises a turbocharging system based on the Twin Scroll Twin Turbo principle, including cross-bank exhaust manifolds, High Precision Injection petrol direct injection and VALVETRONIC variable valve control. Added to which, the engine has an extremely powerful cooling system. This is a combination without parallel worldwide and produces the suitably exclusive performance characteristics you would expect from a BMW M car. The experience is defined by instantaneous responses and extremely impressive torque developed from extremely low revs and maintained into the higher reaches of the engine speed range.

Concentrated power: turbochargers positioned in the V-shaped space between the cylinders, cross-bank exhaust manifold.

The two turbochargers of the eight-cylinder engine are accommodated, along with the catalytic converters, in the V-shaped space between the cylinder banks, which are positioned at a 90-degree angle to one another. This arrangement produces an extremely compact construction and allows model-specific positioning of the intake and exhaust ducts. Their reduced pipe length and larger cross section minimise the pressure losses on the exhaust side of the engine. There is also a smaller distance between the combustion chambers and the catalytic converters, which helps the "cats" reach their optimum operating temperature soon after the engine has started.

BMW's patented and globally unique cross-bank exhaust manifold ensures additional optimisation of the gas flow on the way to the two twin-scroll turbochargers. It is made up of four separate exhaust ducts, which are

connected with the exhaust ports of two combustion chambers – one on the left-hand cylinder bank and one on the right. Identical pipe lengths and a combustion chamber arrangement mirroring the firing sequence ensure the gas flows through the exhaust ducts at an even rhythm. In each case, two of the four exhaust gas ducts supply one of the two turbos, having been channelled together shortly before they reach the turbine. The result is a consistent level of pressure acting on the two turbochargers, without any kind of counter-flow. This ensures the turbines respond extremely rapidly and charge pressure remains constant.

The turbochargers developed specially for the engine powering the new BMW M5 stand out with their particularly high level of compressor and turbine efficiency, and deliver maximum charge pressure of 1.5 bar. Their innovative construction principle uses the potential of turbocharging to deliver an efficient output boost of unprecedented potency. The latest version of M TwinPower Turbo technology provides a level of responsiveness, intensity and smoothness in its power delivery unmatched in the segment. The engine's intoxicating thrust gives the new BMW M5 impressive acceleration. The sprint from rest to the 100 km/h (62 mph) mark is all over in 4.4 seconds, and from that point progress continues with barely any let-up. Indeed, the M5 needs just 13.0 seconds to race from 0 – 200 km/h (124 mph). Maximum speed is electronically restricted to 250 km/h (155 mph); if the optional Driver's Package is specified, this limit is raised to 305 km/h (190 mph).

The construction principle of M TwinPower Turbo technology also shapes the development of the V8 engine's soundtrack. The concept of cross-bank exhaust manifolds plays a key role in delivering a multilayered collage of sound. The twin-tailpipe exhaust system of the new BMW M5 runs largely in a straight line and has a large cross section. The two exhaust gas ducts feed into a single muffler, from which the customary M twin tailpipes jut out through the far left and right-hand sides of the rear apron.

Direct injection system uses new type of injectors to ensure precise fuel supply.

The engine developed for the new BMW M5 combines its outstanding power development with an unsurpassed level of efficiency in this output class. Credit for the progress made in this area should go to the other components

of the M TwinPower Turbo technology package. High Precision Injection petrol direct injection ensures an extremely precise supply of fuel to the combustion chambers. Injectors positioned centrally between the valves within immediate range of the spark plugs spray the fuel into the combustion chambers with maximum pressure of 200 bar, providing smooth and clean combustion.

Innovative solenoid valve injectors in the new BMW M5 engine use multiple injections to achieve an extremely precise mixture preparation. Plus, the cooling effect of the direct injections enables an extraordinarily high compression ratio for a turbocharged engine, which further increases the efficiency of the V8 engine.

VALVETRONIC gives an additional boost to responsiveness and efficiency.

The M TwinPower technology of the new eight-cylinder engine also includes VALVETRONIC fully variable valve control. This system controls the amount of lift of the intake valves. Throttle losses in the gas cycle are therefore minimised, which has a positive impact on both the efficiency of the powerplant and its torque development. The integration of VALVETRONIC therefore sharpens both the responses and efficiency of the V8 engine in the new BMW M5.

Double-Vanos fully variable camshaft control plays its part both in optimising the engine's efficiency and generating high torque at low engine revs. In addition, the volume-controlled oil pump and a range of other Efficient Dynamics measures deliver an extra boost to efficiency. The new BMW M5 is fitted as standard with Brake Energy Regeneration and an Auto Start-Stop function, which automatically switches off the engine when the car comes to a halt at junctions or in a traffic jam. The extensive use of efficiency-enhancing technology produces fuel consumption and emissions values unmatched in this output class. The new BMW M5 records average fuel consumption in the EU test cycle of 9.9 litres per 100 kilometres (28.5 mpg imp) and CO₂ emissions of 232 grams per kilometre.

High performance applies to power transfer as well: the seven-speed M Double Clutch Transmission with Drivelogic.

The new BMW M5 is kitted out with a seven-speed double-clutch transmission to ensure that the transfer of engine output to the rear wheels serves up the time-honoured M experience. The M DCT Drivelogic system developed specially for the M5 has been tuned precisely to the performance characteristics of the V8 engine. Both in automated mode (D) and manual (S) it delivers exceptionally fast and clean gear changes. The system's control concept follows similar lines to the sequential M transmission in the predecessor car. Again, no clutch pedal is required for manual gearshift, and the driver can keep his foot on the accelerator during gear changes. The driver uses the model-specific M gear selector to choose between D and S mode, and to engage reverse. The transmission offers a sequential shift pattern for the manual gearshift mode. Alternatively, the driver can also change gear manually using the standard-fitted shift paddles on the steering wheel – the right-hand paddle for upshifts, the left-hand paddle for downshifts. Comfort is further enhanced by the new Low Speed Assistance function, which keeps the car moving at minimal speed through stop-start traffic with a light nudge of the accelerator pedal.

M DCT Drivelogic offers three shift programs in both automated and manual mode. The driver selects his desired mode using the rocker switch positioned immediately behind the shift lever on the centre console. The D1 program is selected automatically when the engine is started, tailoring gear selection to deliver the most efficient possible driving style. D2 mode supports laid-back cruising with gear changes carried out according to engine revs and load. And, to promote a sporty driving style laced with dynamic acceleration, shift times in D3 mode are set up to delay gear changes until the engine has climbed higher up the rev range.

The driver can also adapt the shift characteristics to his requirements in manual mode. S1 mode generates extremely comfortable and jolt-free gear changes. In S2 the gear changes are completed noticeably faster and accompanied by significant shift jolts at higher revs. And S3 is the one to choose for maximum dynamics; it enables even sportier gear changes and also brings the Launch Control function into play. When the stability control system is switched off, Launch Control allows the driver to achieve the

maximum acceleration force possible from a standstill – as permitted by the condition of the road – by pressing the accelerator down with maximum force. Each gear change takes place automatically and at the optimum engine speed.

Innovation for unbeatable traction in dynamic driving situations: the Active M Differential.

BMW M cars are equipped with a specially developed differential for the rear axle to allow the driver to enjoy the benefits of rear-wheel drive to the full – in the form of the sharpest possible driving dynamics. A variable locking function splits engine power between the right and left rear wheel to generate maximum traction. Another innovation in this area that is fitted in the new BMW M5 ensures even more precise distribution of drive according to the situation at hand; the Active M Differential optimises stability with the help of an electronically controlled multi-plate limited-slip differential, which intervenes at an early stage to prevent wheel spin.

The rear axle's multi-plate limited-slip differential works with extremely high precision and speed. Its control unit is connected with the DSC (Dynamic Stability Control) system via FlexRay high-speed data transfer technology and constantly cross-checks the data collected by its sensors with the feedback from DSC. It then uses this information to calculate the locking force required to deliver optimum traction and stability. The data recorded by DSC sensors is also passed on if the stability control system is switched off. The locking force within the differential can be set between 0 and 100 per cent. The Anti-lock Braking System retains full functionality in all situations.

In addition to its own data and that provided by DSC, the Active M Differential's control unit also takes into account the position of the accelerator pedal, the rotational speed of the wheels and the car's yaw rate. Every driving situation is therefore precisely analysed and an impending loss of traction on one side of the car identified at an early stage. The degree of lock is adjusted as required within a fraction of a second, enabling wheel spin to be prevented on slippery surfaces, in instances where the right and left rear wheel have widely differing friction coefficients, in tight bends and when changing direction extremely dynamically. Optimising traction in this way also provides unbeatable driving stability in challenging conditions and allows impressively

dynamic acceleration out of corners. Plus, the Active M Differential also counteracts – to great effect – a loss of traction during double lane changes at high speed and a tendency to understeer under sudden load alterations during dynamic cornering.

M-specific chassis, electronically controlled dampers, M Dynamic Mode.

The new BMW M5 comes with bespoke chassis technology whose construction and set-up are defined by extensive expertise from the race track. Specially developed axle kinematics and newly developed components boasting impressive strength and minimised weight meet both the requirements of everyday road driving and the specialised demands of track use. Chassis mountings using large panels at the front and rear axle ensures dynamic forces are passed evenly through to the body. The chassis transfers the potential wrapped up in the engine's remarkable output onto the asphalt with assurance and a finely-honed sense of dynamic drama. All of which allows the BMW M5 to set new benchmarks in its segment not only in terms of sprinting power and elasticity, but also lateral acceleration, handling properties and braking performance. As with every BMW M car, the engineers carried out the fine-tuning that underpins the perfect M experience during extensive testing on the Nürburgring's Nordschleife circuit.

The new BMW M5 is equipped as standard with electronically controlled dampers. Dynamic Damper Control uses electrohydraulic damping force adjustment to provide a set-up suited to the driving situation or the wishes of the driver. The damper settings can be adjusted at the touch of a button. In "Comfort" mode the dampers respond adaptively to the condition of the road surface and the driver's style. "Sport" mode activates a noticeably stiffer damper set-up, while "Sport Plus" allows further stiffening of the suspension to achieve maximum longitudinal and lateral acceleration in ultra-dynamic driving situations.

At the touch of a button the driver can also select from three settings for the Servotronic speed-sensitive power steering system, which has been fitted in the M5 in an M-specific configuration. "Comfort" mode requires only a small amount of steering force when parking or manoeuvring, but still provides the brand's hallmark direction-changing precision at higher speeds. "Sport"

ensures the driver enjoys more intensive feedback across all speed ranges. This steps up another notch in “Sport Plus”. With this mode selected, the driver is called on to use greater force with the steering wheel.

In addition to applying brake impulses and reducing engine output to stabilise the car, the DSC system in the new BMW M5 also employs the services of the Anti-lock Braking System (ABS), Cornering Brake Control (CBC), Dynamic Brake Control (DBC), Brake Assistant, Fading Compensation, Brake Drying function and Start-Off Assistant. M Dynamic Mode (MDM) can be activated to override the basic setting by pressing the DSC button on the centre console. This mode generates the familiar M self-steering response by raising the intervention thresholds of DSC. “DSC Off” mode can also be activated at the touch of a button.

High-performance compound brakes, extensive safety equipment, extremely impressive power-to-weight ratio.

The high-performance braking system of the new BMW M5 guarantees outstanding stopping power. The further development of the remarkable compound construction has resulted in further optimised braking performance – resisting fade even under heavy loads – and an enviable degree of feel. The six-piston fixed-calliper brakes are radially bolted to the pivot bearing. The M-specific light-alloy wheels for the new BMW M5 come in 19-inch format as standard and are fitted with 265/40 R19 tyres at the front and 295/40 R19 items at the rear. 20-inch forged M light-alloy wheels can be ordered as an option.

Hallmark M handling and occupant protection both benefit from the extraordinary strength of the BMW M5 body structure. Incredibly durable load-bearing structures and large, precisely defined deformation zones keep the forces released in a collision away from the extremely stiff passenger compartment. The safety equipment fitted as standard in the new BMW M5 includes front and side airbags, side curtain head airbags for both rows of seats, three-point inertia reel seat belts on all seats, front belt force limiters and belt tensioners, and ISOFIX child seat attachments in the rear.

An intelligent mix of materials containing a high proportion of high-tensile and ultra-high-tensile steels, as well as aluminium, help to minimise the car’s weight. Like the bonnet and front side sections, the doors of the new

BMW M5 are also made from aluminium. With a power-to-weight ratio of 3.3 kg (approx. 7lb)/hp, the high-performance Saloon represents a substantial step forwards from its predecessor in this area as well.

Interior and controls: sports car cockpit with premium ambience.

The interior of the new BMW M5 brings together an inimitable combination of the driver-oriented cockpit design of a sports car, the spaciousness of a prestige saloon and the luxurious feel of a premium model. Bespoke M sports seats, fine-grain Merino leather upholstery with extended features, door sills with "M5" lettering, an M driver's footrest, exclusive Aluminium Trace interior trim strips and the BMW Individual roof liner in Anthracite are all standard equipment, as is the iDrive control system with an up to 10.2-inch Control Display. This screen is centrally positioned and, like the controls in the central section of the instrument panel, tilted slightly towards the driver.

The instrument cluster with black-panel-technology includes classical circular instruments in traditional BMW M car style, with red needles and white illumination, as well as model-specific displays and the M logo in the rev counter. The shift program currently selected and gear engaged are shown in the centre of the instrument cluster. Feedback from all the drive and chassis settings selected at the touch a button is also displayed in the cockpit.

Two M Drive buttons now included to activate the individually configured set-up options.

The multifunction buttons on the M leather steering wheel in the new BMW M5 allow the driver, among other things, to operate the cruise control system and the audio and telephone functions. On the left-hand steering wheel spoke the driver will now find two M Drive buttons, which he can use to call up a pre-configured set-up for the car. For example, the driver can save a sporty configuration using the "M1" button and a comfort-biased set-up via the "M2" button. The set-up selected will remain activated until the driver either cancels it by pressing the button again or switches to another M Drive setting. Once the system has been switched off – as when the engine is started – it reverts to a default configuration focusing on efficiency and ride comfort.

The M Drive system in the new BMW M5 allows the driver to adjust no fewer than six parameters: the engine management, the responses of the

Servotronic steering system, the M DCT Drivelogic shift program, the DSC mode, the responses of Dynamic Damper Control and the information in the Head-Up Display. The desired settings for the engine, chassis systems and Head-Up Display can be configured in any combination via the iDrive menu. Plus, the driver can also save the current set-up configuration selected earlier using the buttons on the centre console by holding down one of the two M Drive buttons for a few seconds. For safety reasons, a set-up involving the DSC settings “MDM” or “DSC Off” requires confirmation from the driver – by pressing the M Drive button again – before it can be activated. The set-up configuration selected is shown by a clear symbol displayed in the instrument cluster.

Head-Up Display with M-specific information comes as standard.

The M Drive configuration also includes the information shown on the Head-Up Display, which comes as standard on the new BMW M5 and projects important information onto the windscreen directly in the driver's field of vision. The full spectrum of colours is used to display graphics and symbols, and this all-colour capability means road sign symbols can be reproduced extremely realistically. In addition to a digital speed readout and tips from the optional Speed Limit Info, the M-specific version of the Head-Up Display also shows the gear currently engaged and a multicolour rev counter symbol, complete with Shift Lights.

As well as the Head-Up Display, numerous other driver assistance systems and mobility services available from BMW ConnectedDrive are also unique in the segment occupied by the new BMW M5. The selection of optionally available systems includes Park Distance Control, a rear view camera, High-Beam Assistant, Speed Limit Info, the Lane Change Warning System, the Lane Departure Warning System, Surround View and BMW Night Vision with pedestrian recognition. Plus, innovative technologies optimise the integration of the Apple iPhone and other smartphones, as well as music players, including the use of internet-based services. The apps option allows iPhone owners to receive Web Radio stations, for example, and display Facebook and Twitter posts on the on-board monitor. The likewise new real-time traffic information function keeps the driver supplied with impressively accurate traffic bulletins and diversion recommendations.

The new BMW M5 also comes as standard with four-zone automatic climate control, heated seats and electric seat adjustment including memory function for the driver and front passenger, xenon light with Adaptive Headlights, ambient light, an alarm system and the BMW Professional radio including CD player, AUX-IN socket and six speakers. In addition, almost all of the items of optional equipment available for the BMW 5 Series Saloon can be ordered as an option. Among the highlights are the Navigation system Professional with a hard disk for storing maps and personal music collections, the electrically operated glass roof, the M multifunction seats, the active seats, active seat ventilation, Comfort Access, the Soft Close Automatic function for the doors and a trailer coupling with electrically pivoting trailer hitch ball.

Specifications.

BMW M5.



BMW M5		
Body		
No. of doors/seats		4 / 5
Length/width/height (unladen)	mm	4910 / 1891 / 1456
Wheelbase	mm	2964
Track, front/rear	mm	1627 / 1582
Ground clearance	mm	117
Turning circle	m	12,6
Tank capacity	approx. l	80
Cooling system incl heating	l	18.5
Engine oil ¹⁾	l	8.4
Weight, unladen, to DIN/EU	kg	1870 / 1945
Max load to DIN	kg	540
Max permissible weight	kg	2410
Max axle load, front/rear	kg	1180 / 1260
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 _x x A	0.33 x 2.40
Engine		
Configuration/No of cyls/valves		V90 / 8 / 4
Engine technology	M TwinPower Turbo technology with cross-bank exhaust manifold, twin-scroll turbocharging, direct petrol injection (High Precision Injection), VALVETRONIC and Double-Vanos	
Effective capacity	cm ³	4395
Bore/stroke	mm	88.3 / 89.0
Compression ratio	:1	10.0
Fuel grade		RON 98 (min. 95)
Output	kW/hp	412 / 560
at	min ⁻¹	6000 – 7000
Torque	Nm	680
at	min ⁻¹	1500 – 5750
Electrical system		
Battery/Installation	Ah/–	105 / luggage comp
Alternator	A/W	210 / 2926
Driving dynamics and safety		
Suspension, front	Double track control arm with M-specific elastokinematics, small, negative steering roll radius, anti-dive	
Suspension, rear	Integral-V multi-arm axle with M-specific elastokinematics, spatial suspension with anti-squat and anti-dive	
Brakes, front	Six-piston fixed-calliper compound disc brakes	
Diameter	mm	400 x 36 / vented
Brakes, rear	Six-piston fixed-calliper compound disc brakes	
Diameter	mm	396 x 24 / vented
Driving stability systems	Standard: DSC incl. ABS, ASC and MDM (M Dynamic Mode), CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant, Dynamic Damper Control, Active M Differential, linked to Integrated Chassis Management (ICM)	
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, Tyre Defect Indicator	
Steering	Hydraulic rack-and-pinion steering with M-specific Servotronic function	
Steering ratio, overall	:1	18.0
Tyres, front/rear		265/40 R19 102Y 295/35 R19 104Y
Rims, front/rear		9J x 19 LM 10J x 19 LM

BMW M5

BMW ConnectedDrive

Comfort	Optional: BMW Assist incl. Enquiry Service, remote-control functions and V-Info+ (Traffic Info plus), 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: variable light distribution and adaptive headlight range control (standard), High Beam Assistant, Park Distance Control, rear-view camera, Surround View incl. Top View and Side View, BMW Night Vision with pedestrian recognition, Head-Up Display (standard), Lane Change Warning, Lane Departure Warning, Speed Limit Info, Advanced eCall

Transmission

Type of gearbox	Seven-speed M double-clutch transmission with Drivelogic		
Gear ratios	I	:1	4.806
	II	:1	2.593
	III	:1	1.701
	IV	:1	1.277
	V	:1	1.000
	VI	:1	0.844
	VII	:1	0.671
	R	:1	4.172
Final drive		:1	3.150

Performance

Performance				
Power-to-weight ratio		kg/kW	4.5	
Output per litre		kW/l	93.7	
Acceleration	0–100 km/h	s	4.4	
	0–1000 m	s	21.9	
	in 4 th /5th gear	80–120	s	3.7 / 4.6
Top speed		km/h	250 / 305 ²⁾	

BMW EfficientDynamics

BMW EfficientDynamics standard features	Brake Energy Regeneration with recuperation display, Auto Start-Stop function, intelligent lightweight construction, on-demand operation of ancillary units, flow rate-controlled power steering pump, tyres with reduced rolling resistance
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Fuel consumption EU

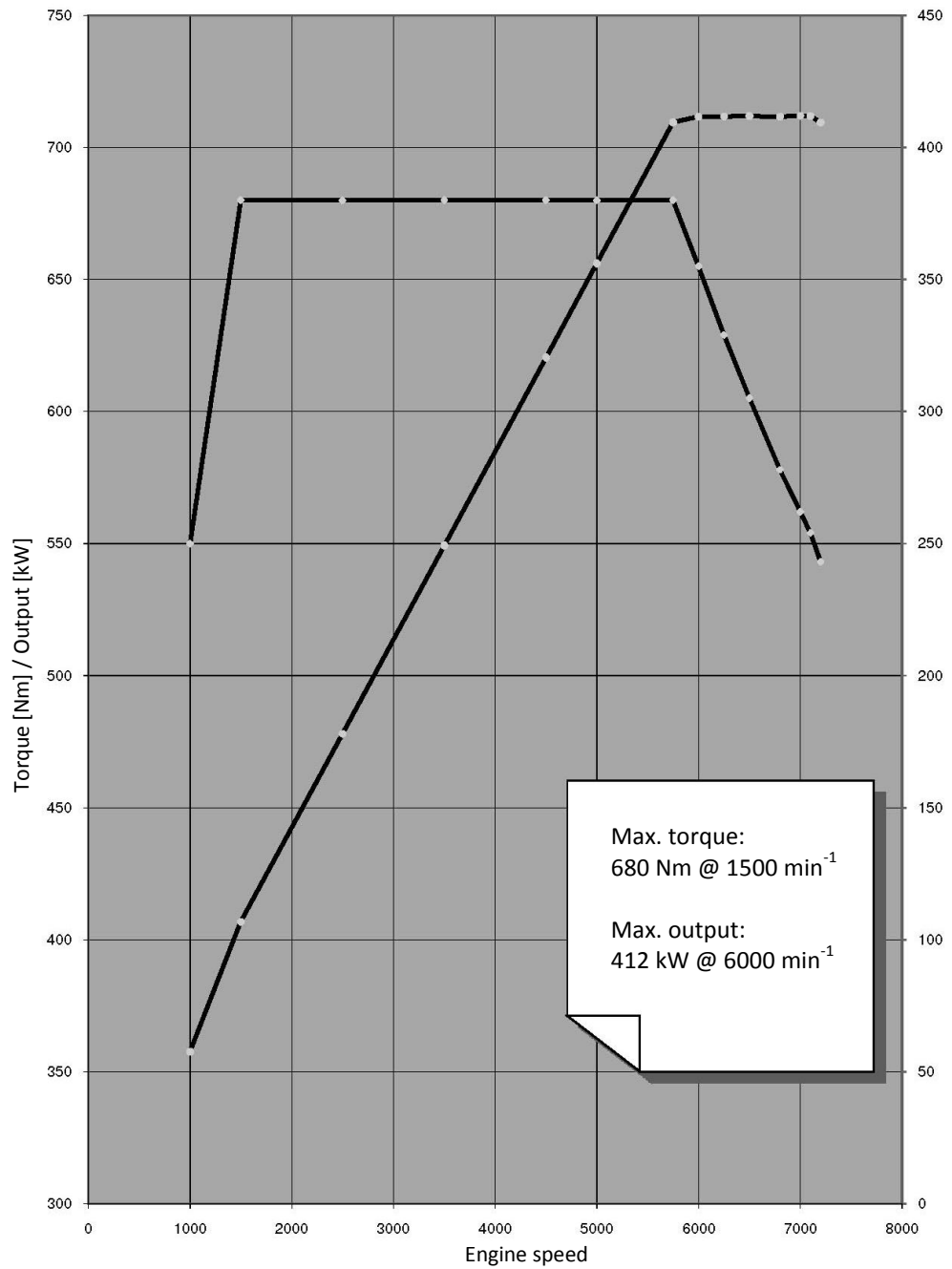
with standard tyres		
Urban	l/100km	14.0
Extra-urban	l/100km	7.6
Combined	l/100km	9.9
CO ₂	g/km	232
Emission rating		EU5

Specifications apply to ACEA markets; data relevant to homologation applicable in part only to Germany (weight)

¹⁾ Oil change

²⁾ In conjunction with optional M Driver's Package

Output and torque diagram. BMW M5



Exterior and interior Dimensions. BMW M5

