

# The new BMW 7 Series. Contents.



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# 1. The new BMW 7 Series: Sporting poise and luxurious comfort in perfect harmony. (Short version)

- New full-LED headlights, a prominent BMW kidney grille and a modified front apron define the unmistakable appearance of the new BMW 7 Series range.
- New to the cockpit are the multifunctional instrument display allowing the driver to select a variety of information and the central Control Display with 3D graphics. New Rear Seat Entertainment package.
- New and upgraded engine variants raise the bar in terms of output and efficiency. Eight-speed automatic transmission is fitted as standard. Fuel savings of up to 25 per cent are possible.
- Engine line-up ranges from a TwinPower Turbo diesel unit that holds the title of the world's most powerful straight-six diesel engine to the second-generation BMW ActiveHybrid 7.
- Advanced features such as coasting mode, proactive hybrid technology and the Driving Experience Control switch with ECO PRO mode enhance both driving comfort and efficiency.
- Optimised chassis – with self-levelling air suspension at the rear axle – gives long-distance comfort a noticeable boost.
- New Connected Drive highlights: latest-generation Professional navigation system, BMW Night Vision + Dynamic Light Spot, anti-dazzle LED High-Beam Assistant, BMW Parking Assistant, Active Protection.

The new BMW 7 Series is set to reinforce its position as the most innovative sedan in the luxury segment. The flagship model series of the BMW fleet embodies sporting elegance, refined powertrain technology and luxurious comfort in equal measure. And now, by making a clear step up in terms of product substance, the Sedan is set to underline its leadership. New LED headlights, an upgraded interior with optimised soundproofing, markedly improved ride comfort, a comprehensive selection of optional equipment and state-of-the-art safety technology combine to create an in-car experience

from the top drawer. A line-up of either new or optimised drive systems, including the world's most powerful six-cylinder in-line diesel engine and the second-generation BMW ActiveHybrid 7, set new performance and efficiency benchmarks.

**Body: new LED headlights and subtle new design features.**

Dynamic lines and perfectly balanced proportions continue to lie at the heart of the BMW 7 Series Sedan's sporty and elegant presence. The most eye-catching feature of the new BMW 7 Series are the new LED headlights with hallmark BMW corona rings and a smart accent strip, which now ensure the new BMW 7 Series projects a distinctive appearance at night as well. The modified BMW kidney grille with nine slats – instead of the previous 12 – and revised front apron set the new model apart from its predecessor. Elsewhere, indicators integrated into the lower section of the exterior mirrors are among the new features visible from the side. And last but not least, the powerfully chiselled rear benefits from a thin chrome strip connecting the two slim reflectors in the rear apron.

**Interior:**

**new leather seats, optimised noise levels, Rear Seat Entertainment package and sound system with extending centre speaker.**

Flawlessly executed design, top-class materials, quality workmanship and outstanding practicality define the interior of the BMW 7 Series Sedan. The driver and front passenger can relax into newly designed leather seats offering optimum lateral support and unbeatable long-distance comfort. The rear passengers, too, travel in luxury and are largely cocooned from outside noise. Individual seats are also available as an option for the rear and can be adapted to passengers' needs. And the optional Rear Seat Entertainment package with a new 9.2-inch flatscreen monitor ensures a refreshing diversion is always at hand over extended journeys. The new 1,200-watt Bang & Olufsen High End Surround Sound System delivers unimpeachable sound quality. Its 16 speakers include an illuminated centre speaker which retracts almost fully into the instrument panel.

### **Cockpit: selectable displays in black-panel technology and central Control Display with 3D graphics.**

In the new BMW 7 Series, the multifunctional instrument display behind the steering wheel takes its cues from the driver's needs. Extended black-panel technology opens up a whole new range of display options through the 10.25-inch screen. The instruments are now presented using different colours and graphics depending on the driving mode selected, and provide situation-specific information such as status and function displays. The Control Display in the centre of the instrument panel has also benefited from visual and technical improvements and now uses high-resolution 3D graphics.

### **Powertrain and chassis: refined power, improved efficiency and enhanced ride comfort.**

The new BMW 7 Series Sedan will hit the ground running in 2012 armed with new and comprehensively revised engines which are extremely economical and low on emissions and channel their power to the driven wheels through an intelligent eight-speed automatic transmission. Technology such as the Auto Start-Stop function, Brake Energy Regeneration and the second-generation Driving Experience Control switch with ECO PRO mode and coasting function pave the way for additional fuel saving.

Alongside the flagship BMW 760i with its 12-cylinder powerplant and the entry-level engine in the BMW 730i, customers can choose from the new six-cylinder in-line engine powering the BMW 740i and the revised V8 petrol engine earmarked for the BMW 750i. The six-cylinder diesel engine in the BMW 730d likewise offer drivers the combination of increased output and lower fuel consumption. Rounding off the range is the second-generation BMW ActiveHybrid 7 with a new six-cylinder in-line engine and significantly reduced emissions.

An impressive spread of chassis wizardry helps give the ride comfort of the BMW 7 Series Sedan a noticeable boost. Complementing the optimised chassis set-up – with modified rubber bearings and new dampers – and the self-levelling air suspension for the rear axle is the standard-fitted Electric Power Steering. State-of-the-art electronic control systems with likewise retuned software help to enhance the long-distance attributes of the BMW 7 Series

Sedan and ensure that the new edition of the car makes travelling on board even more pleasurable – in terms of both dynamics and comfort.

**BMW ConnectedDrive: intelligent integration is the key to comfort and assurance at the wheel along with unbeatable safety.**

A unique combination of driver assistance systems and mobility services allows the BMW 7 Series to once again demonstrate its innovative edge and technical eminence over its rivals. To this end, the BMW ConnectedDrive portfolio includes impressive new features that enable the Sedan to maintain its leading position in the luxury segment.

Among the systems helping to maximise safety are BMW Night Vision + Dynamic Light Spot with pedestrian recognition technology (unique in the premium segment), the anti-dazzle LED High-Beam Assistant, , Active Protection with automatic fatigue recognition and Speed Limit Info including the No Passing Info display using road sign symbols. A more powerful operating system governing the central Control Display ensures the entertainment programs are simpler to operate, optimises office and online services, and makes using the telephone that much easier. The Professional navigation system, meanwhile, is now more powerful and features new and ultra-sharp map graphics and 3D city mode. An innovative feature allowing convenient hands-free opening of the boot lid rounds off the function-focused highlights of the BMW 7 Series.



## 2. Design: **Stylish presence, unique equipment features, an unforgettable way to cover the miles.**

The BMW 7 Series meets the highest global standards when it comes to aesthetic appeal and innovative technology. In the luxury sedan segment it represents the epitome of athletic elegance and a supreme driving experience. The upgraded BMW 7 Series reaffirms its stylish presence and sporting prowess in 2012 through expressive new design features at the front and rear. Its dimensions have changed only marginally, but its eight-millimetre drop in overall height imbues its sweeping lines with extra expression and emphasises the perfect balance of the car's dynamic proportions.

### **All-new headlights sharpen the presence of the BMW 7 Series.**

From the front, the long, broad bonnet of the BMW 7 Series gives it an elegant and expressive profile. The precise contour lines of the bonnet draw the eye to the upright new BMW kidney grille as they extend forward. The grille's chrome surround is now larger, a change which – together with a new slat arrangement (nine slats instead of 12) – gives it greater prominence and reinforces the car's presence on the road. With their elegant accent strip and hallmark BMW corona rings, the optional new full-LED headlights accentuate the unmistakable appearance of the BMW 7 Series.

The large, full-width air intake dominating the lower section of the modified front apron is now split into three sections, a pair of chrome bars marking its outer sections and adding further depth to the car's sporty looks. Two narrow vertical air intakes sit beyond even the LED foglamps to the left and right of the wide intake. These are included as part of the "air curtain" technology, which lowers fuel consumption at higher speeds by forcing the air to flow more aerodynamically around the front wheels. The design of the air curtain therefore represents a fine technological advertisement for the BMW EfficientDynamics strategy.

Hallmark BMW proportions, such as a long wheelbase, short front overhang, long, sweeping bonnet and set-back passenger compartment with a coupe-like roofline, define the sporting and elegant silhouette of the BMW 7 Series. A new design feature that stands out from the side is the indicator integrated

into the lower section of each exterior mirror, which makes the car easier to see and therefore safer to drive.

The powerful rear of the BMW 7 Series exudes a feeling of sporting assurance. The horizontal lines and subdivision of the rear into several levels visually lowers the height of the car. The design of the brand's familiar L-shaped rear lights, linked by an eye-catching chrome strip, remains unchanged. They are, however, richer in contrast thanks to differing shades of red. A second, delicately sculpted chrome strip draws a visual connection between the two slim reflectors in the rear apron and gives the rear view a more exclusive and solid feel overall. Another slim chrome bar between the four chromed tailpipe embellishers in the rear apron is a distinguishing feature of the 12-cylinder flagship model.

#### **Exclusive design for the new Rear Seat Entertainment package.**

The picture of stylish exclusivity and luxurious character is painted with equal clarity inside the new 7 Series. The interior possesses an undeniable air of quality and harmoniousness. Smoothly flowing forms, exquisite materials and stylish colour combinations determine the car's luxurious overall impression. Dakota leather and Nappa leather can now be ordered in Ivory White with the world colour Black and Veneto Beige with the world colour Veneto Beige. The outstanding build quality of the BMW 7 Series reflects the attention to detail of the car's creators, and evidence of the precise craftsmanship at work is striking.

A typical feature of BMW interiors is their unflinching focus on the driver – the way in which they gravitate ergonomically towards the person behind the wheel. In the new 7 Series, this includes the addition of newly designed, more slender front seats offering the best possible ergonomics, optimum lateral support and ultimate long-distance comfort. Sports seats and multifunction seats are also available in place of the standard items. The latter can be ordered with a folding table in the backrest or with the Rear Seat Entertainment package as an option. A brand-new feature are the 9.2-inch screens which, instead of being integrated into the front seats, appear to be "floating" on them. Their exclusive design takes its inspiration from the latest breed of flatscreen monitors, which gives them an extremely slight and lightweight look.

The new BMW 7 Series can be specified as an option with individual rear seats that can be adjusted to suit individual requirements. The backrest angle and seat position can both be varied, as can the position of the head restraints. The controls are the same as those for the front seats with memory function.

The long-wheelbase version of the BMW 7 Series provides the ideal platform on which to maximise long-distance comfort. All of the 140 millimetres added to the wheelbase of the standard-length 7 Series are used to lay on a calm and relaxed journey for the rear passengers in a first-class environment. Indeed, changes to the roofline of the long-wheelbase version create 10 millimetres of extra headroom in the rear.

### **Extending centre speaker adds to the audio experience.**

The optimum interior soundproofing of the BMW 7 Series takes the on-board experience another step towards perfection. Additional insulation materials in the B and C-pillars, skirts and boot area team up with intricate sealing around the window frames and exterior mirrors to minimise driving noise. All of which brings the sound experience generated by the new Bang & Olufsen High End Surround Sound System even more powerfully to the fore. The 1,200-watt music system is hooked up to 16 speakers, some of which are positioned behind illuminated, satin-finish aluminium grilles sited in the mirror triangles of the doors and the parcel shelf. The most attention-seizing member of the speaker line-up is the illuminated centre speaker which extends out of the instrument panel and uses B&O Acoustic Lens Technology. Its distinctive form guarantees perfect sound quality in every seat. When the music system is switched off, the centre speaker retreats back into the instrument panel almost without trace. Meanwhile, the new ambient lighting for the interior creates a pleasant ambience, especially at night. Footwell lights for the driver and front passenger and indirect roof liner illumination via lights integrated into the B-pillars further enhance the feeling of well-being. The colour of the ambient light can be altered according to taste.

### **New screen experience: the multifunctional instrument display.**

A particular highlight of the BMW 7 Series is the multifunctional instrument display, which makes its debut appearance on the options list. In place of the traditional instrument cluster – in which four circular analogue dials keep the driver informed of the car's speed, engine revs, fuel level and oil temperature –



an almost seamlessly integrated 10.25-inch display provides a totally new and appealing screen experience consciously inspired by the looks of the latest electronic devices.

While the familiar format of four circular instruments is retained here, the extended black-panel technology hands the driver a whole new set of display options. For example, the display shows varying information and different colour and mood worlds in the COMFORT, SPORT and ECO PRO driving experience modes, ensuring greater safety and efficiency and demonstrating an exemplary focus on the driver. The information shown is tailored to the driving mode currently engaged and therefore changes accordingly. All of which means the display the driver sees in the instrument cluster is always the optimum one for the driving situation at hand.

While COMFORT mode brings a classic layout with four solid circular instruments, in ECO PRO and SPORT modes the rings open to offer additional space for extra information between the two instruments. In ECO PRO mode the display turns blue in colour and the rev counter morphs into an Efficient Dynamics display to show how efficiently the car is being driven. Here drivers can monitor how hard they have their foot on the accelerator, how much fuel the car is currently using and whether any energy is being recovered through recuperation. If they are pressing too forcefully on the accelerator, the full display turns grey and alerts them to the amount of fuel they are burning unnecessarily. A speedometer zoom function can also be activated in ECO PRO and COMFORT modes. This enlarges the position of the speedo needle as if a magnifying glass were being passed over it, making it even easier to see.

In SPORT mode the display takes on a signature BMW orange hue. This display mode purposefully retains a very puristic look and only shows the driver the most essential information, so that he can maintain maximum concentration on the road ahead. The speedometer shows the car's speed in digital form only with a large, centrally positioned figure, while the gear currently engaged is boldly displayed in the middle of the rev counter if the driver is shifting manually using the steering wheel paddles. As well as the changes in colour, the displays in the instrument cluster also deliver additional information tailored to the situation at hand – such as status and function

updates, Check/Control messages and navigation instructions – which drivers can call up as and when they wish.

### **Control Display.**

The introduction of the new multifunctional instrument display is accompanied by a technical and stylistic update for the central Control Display positioned between the driver and front passenger. A black surround lends the recessed 10.25-inch display additional visual depth, which has the effect of making it look even larger. Vertical electroplated bars border the screen to the sides and add extra visual flourishes which the electroplated surrounds for the cupholder lids carry over into the centre console.



### **3. Powertrain and chassis: Even more ways to enjoy refined power delivery, enhanced efficiency and a step up in comfort.**

The new BMW 7 Series is poised to strengthen its position even further as the most innovative sedan in the luxury segment. New and comprehensively revised engine variants set new standards in terms of performance and efficiency. All the engines available for the new 7 Series team up with an intelligent eight-speed automatic transmission and distinguish themselves with significantly reduced fuel consumption and emissions. The Auto Start-Stop function, Brake Energy Regeneration and the second-generation Driving Experience Control switch with ECO PRO mode offer additional potential for fuel-saving. Carefully optimised suspension and Electric Power Steering for all rear-wheel-drive models also take driving comfort to a new level, while self-levelling air suspension for the rear axle likewise comes as standard on all models.

Alongside the flagship BMW 760i with 12-cylinder powerplant and the entry-level engine in the BMW 730i, customers can choose from the new six-cylinder in-line unit powering the BMW 740i and the revised V8 petrol engine in the BMW 750i. The six-cylinder diesel engine in the BMW 730d also offer drivers the combination of increased output and lower fuel consumption. Rounding off the range is the second-generation BMW ActiveHybrid 7 with new six-cylinder in-line engine and significantly reduced emissions.

#### **BMW 760i: refined 12-cylinder engine still top of the tree.**

The V12 engine with BMW TwinPower Turbo technology, direct petrol injection and continuously variable camshaft control represents the pinnacle of the BMW 7 Series engine range – no change there. The all-aluminium powerplant generates output of 400 kW/544 hp from its 5,972 cc displacement and makes peak torque of 750 Newton metres (553 lb-ft) available as low down as 1,500 rpm. That's enough to propel the BMW 760i effortlessly from 0 to 100 km/h (62 mph) in just 4.6 seconds and on to an electronically limited top speed of 250 km/h (155 mph). With average fuel economy of 12.8 litres per 100 kilometres (22.1 mpg) and CO<sub>2</sub> emissions of

299 g/km, this most cultured of power merchants achieves unprecedented efficiency for its output class.

### **BMW 750i:**

#### **eight-cylinder engine develops more power but burns less fuel.**

The revised V8 petrol engine under the bonnet of the BMW 750i is making its debut. The 4,395 cc eight-cylinder powerplant retains the impressively smooth assurance and spirited power delivery of its pre-update days. However, optimised high-pressure direct injection and reduced charge cycle losses – thanks in the main to the seamlessly variable control of intake valve lift – have pushed its performance potential to a higher level than its predecessor and substantially reduced its fuel economy and emissions. In its latest development stage, the engine generates peak output of 330 kW/450 hp (+ 10 %) and unleashes peak torque of 650 Newton metres / 479 lb-ft (+ 8.5 %) between 2,000 and 4,500 rpm. The engine teams up with the eight-speed automatic transmission, allowing the BMW 750i to sprint from 0 to 100 km/h (62 mph) in just 4.8 seconds and progress on to an electronically governed top speed of 250 km/h (155 mph). The eight-cylinder engine belies its improved performance with better efficiency than ever; with overall fuel consumption of 8.6 litres per 100 kilometres (32.9 mpg) and CO<sub>2</sub> emissions recorded at 199 g/km, the BMW 750i trumps its less powerful predecessor by a clear 25 per cent. In the Chinese market, the BMW 750i is powered by a 4-litre variant of the engine offering 300 kW/408 hp and 600 Newton metres (443 lb-ft) of torque.

### **BMW 740i:**

#### **new six-cylinder petrol engine boasts outstanding efficiency.**

The 3-litre six-cylinder in-line engine stands out with its majestic power and unparalleled high-revving character. The state-of-the-art powerplant is one of the first wave of highly efficient petrol engines to bring together BMW TwinPower Turbo technology with High Precision Direct Petrol Injection, twin-scroll turbocharging, Double-Vanos variable camshaft timing and Valvetronic variable valve timing. Peak output of 235 kW/320 hp and a maximum 450 Newton metres (332 lb-ft) of torque on tap as low down as 1,300 rpm make this ultra-refined engine the performance equal of the outgoing BMW 740i. However, fuel economy in the EU test cycle is an impressive 7.9 litres per 100 kilometres (35.8 mpg) while CO<sub>2</sub> emissions of

184 grams per kilometre represent a 21 per cent reduction in its predecessor's output.

**BMW 730i: entry-level engine variant with reduced fuel consumption.**

This proven 3-litre straight-six petrol engine develops, as before, 190 kW/258 hp and maximum torque of 310 Newton metres (229 lb-ft) at 2,600 rpm. Linking up with the new eight-speed automatic transmission allows the BMW 730i to exploit additional fuel-saving potential; average fuel economy stands at 8.6 litres per 100 km (32.9 mpg), while CO<sub>2</sub> emissions of 199 grams per kilometres are 13 per cent below the level recorded by its predecessor working with a six-speed transmission.

**BMW 730d: cleanest diesel in the luxury segment, emitting just 148 g/km.**

Another round of fuel consumption and emissions reductions sees the BMW 730d building on its position as the world's most economical luxury sedan with the lowest emissions. Peak output of the 3-litre six-cylinder diesel engine, whose construction mirrors that of the engine in the BMW 740d, has increased by 10 kilowatts to 190 kW/258 hp. And its maximum torque has also risen to 560 Newton metres / 413 lb-ft (+ 20 Nm / 15 lb-ft). However, average fuel economy of 5.6 litres per 100 kilometres (50.4 mpg) in the EU test cycle and CO<sub>2</sub> emissions of just 148 g/km allow it to outperform its predecessor – married to a six-speed automatic transmission – by 17 per cent. Specifying the engine with the optionally available BluePerformance technology equips it to meet the EU6 standard.

**BMW ActiveHybrid 7: second generation with six-cylinder petrol engine.**

As BMW continues to push ahead with the development of intelligent hybrid drive systems, the second generation of the BMW ActiveHybrid 7 is set to celebrate its premiere in 2012. The updated model sets itself apart with lower fuel consumption and emissions, as well as innovative auxiliary functions. This latest evolution stage uses a six-cylinder in-line engine displaying impressive high-revving characteristics, torque and efficiency. The cutting-edge petrol engine with BMW TwinPower Turbo technology is the 235 kW/320 hp variant of the unit fitted in the new BMW 740i and replaces the eight-cylinder engine

used up to now. Other hybrid components include the 40 kW/55 hp synchronous electric motor, the hybrid-spec eight-speed automatic transmission, a lithium-ion high-performance battery and power electronics underpinning intelligent energy management. The various components come together into a powerful and harmonious whole, giving the new BMW ActiveHybrid 7 exceptional dynamics and an outstanding balance between performance and fuel economy – and not only in relation to its predecessor.

With system output of 260 kW/354 hp and peak torque of 500 Newton metres (369 lb-ft), the new BMW ActiveHybrid 7 accelerates from 0 to 100 km/h (62 mph) in just 5.7 seconds. At the same time, the Sedan posts average fuel economy of 6.8 litres per 100 kilometres (41.5 mpg) and CO<sub>2</sub> emissions of 158 g/km. That means the more powerful hybrid technology uses some 14 per cent less fuel than a BMW 740i with a conventional drive system.

A host of innovative functions are involved in enhancing the car's dynamics and achieving the excellent efficiency of the overall system. For example, the electric motor hands the six-cylinder an extra 210 Newton metres (155 lb-ft) of torque through the boost function, should the driver need to nail a quick sprint or call on some hard mid-range acceleration. In addition, Brake Energy Regeneration, the Hybrid Start Stop function, ECO PRO mode with coasting function and proactive analysis – to prepare the car's drive system in advance for upcoming situations on the road – ensure the available energy is used as efficiently as possible (more details in the "BMW EfficientDynamics" chapter). The new BMW ActiveHybrid 7 can also run purely on electric power. If the hybrid battery has sufficient charge and the driver goes easy on the accelerator, the car can cover a distance of up to four kilometres (just under 2.5 miles) almost silently and without producing any tailpipe emissions. The top speed possible using electric power alone is 60 km/h (37 mph).

### **Innovative eight-speed automatic gearbox now fitted as standard.**

For the year 2012 BMW is fitting all 7 Series models with the extremely effective eight-speed automatic transmission previously reserved for the BMW 760i and BMW ActiveHybrid 7. Its additional ratios allow the gearbox to combine unbeatable shift comfort and efficiency, while at the same time aiding the dynamic qualities of the BMW 7 Series Sedan. With its intelligent control technology, the eight-speed transmission boasts extremely fast shift

and reaction times and direct downshift capability. The electronic transmission controller can also alter the shift characteristics as required, to cater either for a more sporty or for a more relaxed, fuel-saving driving style.

Despite a larger overall spread, eight ratios mean that the spacing between them is smaller, so that the optimal ratio is available in virtually all situations. The close ratios deliver refined and powerful acceleration as well as smooth and fuel-efficient low-rpm operation. Altogether, then, as well as providing dynamic acceleration and smooth shifting, the new eight-speed automatic also allows drivers to maintain a very economical driving style.

**The chassis: optimised set-up and extended standard specification noticeably enhance comfort levels for the driver and passengers.**

Dynamic performance, ride comfort and active safety are again among the stand-out qualities of the BMW 7 Series Sedan in the year 2012. Sophisticated chassis technology plays a key role here, providing the ideal partner for the refinement and power of the drive systems. A host of measures give the ride comfort of the Sedan a noticeable boost. Complementing the optimised chassis set-up – with modified rubber bearings and new dampers – and the self-levelling air suspension for the rear axle, Electric Power Steering is a standard feature of the models with rear-wheel drive. State-of-the-art electronic control systems with likewise retuned software help to enhance the long-distance attributes of the BMW 7 Series Sedan and ensure that the new edition of the car makes travelling on board even more pleasurable in terms of both dynamics and comfort.

**Dynamics made even more comfortable: double-wishbone front axle and integral-V rear axle with self-levelling air suspension.**

The front axle of the BMW 7 Series Sedan is based on the familiar aluminium double-wishbone construction combining maximum rigidity and minimised weight. The patent-protected integral-V rear axle of the BMW 7 Series Sedan is also made from aluminium. The use of modified ball joints, stiffer hydraulic dampers, new rubber bearings and carefully tuned elastokinematics has allowed the engineers to minimise vibrations and therefore bring about a perceptible improvement in onboard comfort levels. By effectively cutting the link between the road surfaces and the drive system, the rear axle also allows

the driver and passengers to enjoy excellent acoustic comfort and impressively low vibrations.

All BMW 7 Series models are now kitted out with high-comfort rear axle air suspension, which keeps the car riding at a constant height no matter what kind of driving conditions it encounters and regardless of the loads you have on board. This automatic self-levelling suspension responds to any change in load by adjusting the suspension at the relevant wheel. This means that only small interventions are required in response to spring movements caused by road imperfections and cornering tilt.

**Always on the safe side: the lightweight braking system and advanced electronic control systems.**

The compound braking system with lightweight, inner-vented swing-calliper disc brakes provides outstanding deceleration in any situation and brakes the Sedan to a standstill in a very short space of time, even from high speeds. In so doing, the system also offers extremely high resistance to fade as well as unbeatable braking comfort. The braking system is backed up by various state-of-the-art electronic safety systems which are integrated into the Dynamic Stability Control (DSC) package and assist the dynamic performance and active safety of the luxury sedan to equal effect. DSC incorporates the Anti-lock Braking System (ABS), Automatic Stability Control (ASC), Dynamic Traction Control (DTC), Dynamic Brake Control (DBC) and Cornering Brake Control (CBC), along with Start-Off Assistant, brake drying and an electronic limited slip function for the rear differential, which can be activated using the "DSC Off" button.

**Dynamics and ride comfort to suit the occasion:**

**Dynamic Damper Control, Dynamic Drive and the Driving Experience Control switch with ECO PRO mode.**

The BMW 7 Series is the world's first car to come with an electronically controlled damping system whose dampers are adjusted at each wheel individually according to the condition of the road surface and driving style. The compression and rebound settings are adjusted continuously and independently from one another. For example, a stiff chassis setting can be combined with comfortable responses to unevenness in the road surface. The damper settings can be pre-set by the driver using the Driving Experience



Control switch. Optimised software tuning improves ride comfort while also giving agility an extra boost.

The Dynamic Drive roll stabilisation system available for the BMW 7 Series reduces, among other things, body roll in high-speed corners and under sudden changes in direction. Sensors calculate the amount of body roll and this is then counteracted quickly and precisely by rotary actuators in the front and rear axle stabilisers. The Sedan's steering behaviour and load alteration effect are also adjusted as required in this way. This system allows drivers to thread the car through corners with even greater agility and precision.

**Driving Experience Control switch with ECO PRO mode and extended functions: extra sporty, comfortable or economical at the touch of a button.**

The new BMW 7 Series not only sets a new dynamic benchmark for luxury cars, it also raises the bar in the class when it comes to ride comfort. The driver can alter the overall character of the Sedan towards greater sportiness or comfort using the Driving Experience Control switch with ECO PRO mode. The distinction between the different driving modes is now even more pronounced. The Driving Experience Control switch with ECO PRO mode is part of the standard specification for all models, with the exception of the BMW 760i.

Using the Driving Experience Control switch, the driver is able to customise accelerator response characteristics, engine response, power steering characteristics and the Dynamic Stability Control (DSC) thresholds. Added to which, the Servotronic function, Integral Active Steering, the automatic transmission and Dynamic Damper Control are integrated into the system too. Using the simple-to-operate rocker switch on the centre console, drivers can choose between ECO PRO, COMFORT, SPORT and SPORT+ modes. Each of these predefined set-ups activates different settings for the relevant powertrain and chassis components. The clear ground between the various modes means the differences between them are now more easily perceptible. If the Integral Active Steering option has been specified, COMFORT+ mode is also available. This mode gains rear passengers, in particular, another noticeable increase in ride comfort.

Another button allows the driver to change the DSC settings. Selecting TRACTION mode, for example, makes it much easier to pull away on loose surfaces or in deep snow. In this mode, as well as in SPORT+, the Dynamic Stability Control thresholds are raised and Dynamic Traction Control (DTC) is activated. It is also possible to switch off DSC altogether.

The new ECO PRO mode, meanwhile, helps the BMW 7 Series driver to maintain an extra-efficient and economy-conscious driving style. It does this by changing the accelerator mapping so that the same pedal travel delivers less power than in the standard mode. Also in this mode, the transmission control strategy for the automatic gearbox is modified to bring forward upshifts and delay downshifts, while intelligent energy and climate management reduces mechanical power consumption and also the energy consumption of electrical systems such as heated mirrors and seats.

But the biggest factor influencing fuel consumption figures is the driver's own personal driving habits. That is why electronic systems provide tips and incentives on how to develop a more economy-conscious driving style for the situation at hand. Special displays in the instrument cluster let the driver know by how much the driving range is being extended and indicate his fuel consumption history. In ECO PRO mode, average fuel consumption can be reduced by up to 20 per cent, with a corresponding increase in driving range. Extended functions include the new coasting mode (with ECO PRO selected), plus proactive analysis of the driving situation and the subsequent advance preparation of the drive components (in the BMW ActiveHybrid 7). Both functions offer additional potential for fuel saving and are described in greater detail in the "BMW EfficientDynamics" chapter.

### **Premiere: Electric Power Steering included as standard.**

All new BMW 7 Series models come equipped with Electronic Power Steering (EPS), which uses an electric motor to provide steering assistance. EPS only operates when steering assistance is actually required: no electrical power is consumed during straightline driving or steady-state cornering. Noticeable attributes of this system include not only its high efficiency and low weight, but also high steering precision with good feedback, and comfort-enhancing self-centering and anti-roll characteristics. BMW 7 Series drivers

also have the benefit of the steering system's standard Servotronic function, which has a more direct set-up overall and requires less steering effort.

**Integral Active Steering provides maximum agility and comfort.**

Also available as an option for BMW 7 Series models with rear-wheel drive is Integral Active Steering, which combines the Active Steering system for the front wheels familiar from other model series with a steering rear axle. The steering angle and power assistance are controlled at both the front and the rear with the help of electric motors. Here, the optimised system control unit processes information on wheel rotation speeds, steering wheel movement, yaw rate and lateral acceleration to ensure optimum steering behaviour for the driving situation at hand. In addition, Integral Active Steering works with a variable steering ratio on the front axle, which makes parking and manoeuvring easier for the driver and enables impressive precision at higher speeds. In COMFORT+ mode, in particular, a new software set-up gives the car noticeably damped responses. This translates into a perception of greater comfort among those on board when changing lanes and driving through corners. Integral Active Steering – which is unique in this configuration – also improves the car's manoeuvrability and agility in the interests of enhanced ride comfort.



## 4. **BMW EfficientDynamics: Increasing power and cutting-edge functions while lowering fuel consumption and emissions**

The BMW 7 Series sets the standard to follow in a host of different ways, and it's as synonymous with silky smooth drive technology and luxurious comfort as it is with dynamic prowess. As further confirmation of the Sedan's superiority, a series of new and optimised drive variants are being brought out in 2012 which boast more than just stunning power and dynamism. A raft of measures have been implemented under the umbrella of the BMW EfficientDynamics development strategy to bring about a substantial reduction in the fuel consumption and emissions figures for the BMW 7 Series compared to the outgoing model. The BMW 750i and BMW 730d both deliver impressive evidence of this, with CO<sub>2</sub> output having been cut by 25 and 17 per cent respectively despite their superior power. What's more, the entry-level diesel model successfully holds on to its status as the cleanest-running engine of its breed in its class. Finally, the second generation of the BMW ActiveHybrid 7 also continues in the same vein by further raising the bar for energy efficiency.

### **Top-calibre engineering: supremely efficient petrol and diesel units allied to a cutting-edge eight-speed automatic with an excellent efficiency factor.**

The petrol engines in the BMW 7 Series line-up are awash with state-of-the-art technologies, packaged together to create a superb piece of engineering. These include BMW TwinPower Turbo technology featuring twin-scroll turbocharging, High Precision Direct Petrol Injection, Double-Vanos variable camshaft timing and VALVETRONIC fully variable valve timing. The reduced-friction core engines, furthermore, come with a lightweight all-aluminium crankcase, which is a boon for both the efficiency and the agility of the BMW 7 Series.

The luxury sedan's BMW TwinPower Turbo diesel powerplants likewise showcase the very latest in BMW drive technology. With their latest-generation common rail direct injection, turbocharging and all-aluminium design, the cutting-edge diesel units are blessed with high pulling power, refined running and unsurpassed efficiency.

All engines in the BMW 7 Series are partnered by a highly sophisticated eight-speed automatic transmission, which stands out for its excellent efficiency, compact construction and innovative gearset design. Together with the minimised torque converter slip, high internal efficiency, low friction losses and intelligent transmission control, this creates substantial potential for fuel savings.

**Auto Start-Stop, Brake Energy Regeneration, ECO PRO mode.**

All BMW 7 Series Sedans come equipped with an Auto Start-Stop function, which can cut fuel consumption by up to six per cent. The standard specification also includes Brake Energy Regeneration, meaning that power for the vehicle electrical system is only generated during overrun and braking phases where possible. When the engine is under load, the alternator can often be disengaged. This not only means that electricity can largely be generated with zero impact on fuel consumption, it also endows the luxury sedan with even livelier acceleration. Finally, the Driving Experience Control switch gives drivers the option of selecting the optimised ECO PRO mode which, by modifying the powertrain management and programming the heating and air conditioning, heated seats and exterior mirror heating to operate for optimum efficiency, fosters an economical driving style and reduces fuel consumption by as much as 20 per cent.

**New: coasting mode, proactive driving assistant and advance preparation of hybrid drive system.**

The extended ECO PRO functionality includes the new coasting mode, which is designed to decouple the combustion engine when it is overrunning at speeds between 50 and 160 km/h (31 – 100 mph). With this mode activated, the BMW 7 Series Sedan is subject to a far lower rate of deceleration as it freewheels along the road with no engine braking effect and minimal fuel consumption. Through proactive driving, the kinetic energy built up by the vehicle can be harnessed in this way to achieve fuel savings of as much as five per cent. The coasting function is clearly visualised for the driver's benefit in the multifunctional instrument cluster and the information display, and can also be deactivated if desired.

With the exception of the BMW 760i, all engine variants feature a proactive driving assistant that can be switched on via the ECO PRO mode. Drawing on the latest navigation data, it recommends advance adjustment of the car's

speed with the aim of saving fuel. These tips for more efficient driving are shown in the multifunctional instrument cluster and in the central Control Display.

The BMW ActiveHybrid 7 is also able to switch to coasting mode. In this case, the combustion engine switches off completely when overrunning, allowing the Sedan to glide along with zero local emissions. The system of intelligent energy management furthermore allows proactive analysis of the driving situation ahead with the aim of priming the hybrid drive components for maximum efficiency. This is achieved by integrating the power electronics with the standard-fitted Professional navigation system. Based on the data gleaned in this way, such as route topography, speed limits or traffic levels, the vehicle can be prepared in advance and the available energy deployed as efficiently as possible. For instance, a longer downhill stretch can be used to recharge the hybrid battery so that the vehicle can be driven on purely electrical power through a residential area on the “home straight”.

#### **On-demand control of ancillary units saves energy.**

Intelligent energy management in the BMW 7 Series is further enhanced by the ancillary units, which consume significantly less energy compared with conventional systems. Examples include the on-demand coolant pump, the electronically controlled oil pump and the new Electric Power Steering system, which offers potential savings of up to three per cent. The disengageable air conditioning compressor works on the same principle, minimising power drain by the system.

#### **Intelligent lightweight design brings further reduction in fuel consumption and CO<sub>2</sub> emissions.**

Intelligent lightweight design is integrated into all areas of BMW vehicle development work and into all components, from the body and engine to the suspension. Besides high and ultra-high-tensile steels and plastics, state-of-the-art composite materials are also employed. Finally, increased use of aluminium components in the engine and suspension systems as well as for the bodywork has also further reduced the weight of the relevant assemblies.

### **Aerodynamic streamlining.**

Reducing aerodynamic drag also helps to lower fuel consumption. As the excellent drag coefficient figure of  $c_d = 0.28$  would suggest, the aerodynamics of the BMW 7 Series have been finely honed in a state-of-the-art wind tunnel. The optimised aerodynamics also bring benefits for acoustic comfort and roadholding. In particular, the vehicle's underside plays an instrumental role in minimising lift forces, as the aerodynamically efficient design with streamlined panelling provides a high degree of sealing. Also, the front aprons are designed to create an "air curtain" effect which reduces turbulence around the front wheels – again reducing drag. The aerodynamically designed wheel arches and various air deflectors likewise have a fuel-saving effect.

## 5. **BMW ConnectedDrive: The new benchmark for infotainment, convenience and safety.**



BMW ConnectedDrive once again demonstrates its technical superiority while highlighting the innovative prowess of the BMW 7 Series with a range of new functions and a matchless combination of driver assistance systems and mobility services. The intelligent link-up between driver, car and the outside world maximises in-vehicle convenience, infotainment and safety, with an extensive portfolio of features including several new highlights that serve to further strengthen the BMW 7 Series' claim to top spot in the luxury segment:

- The latest generation of the Professional navigation system: more powerful than ever and boasting numerous new functions, the top-of-the-range navigation system is now even better than before. Full 3D menu displays, a dictation function for emails and text messages, sending of voice memos by email, interactive map functions (PIE menu) and the simultaneous coupling of two phones are just some of the stand-out features that distinguish the latest-generation navigation systems.
- The optional multifunctional instrument cluster display with a range of instrumentation graphics makes for an entirely new display experience with novel ways of conveying driving-relevant information.
- Innovative driver assistance systems: safety is now enhanced by the new BMW Night Vision + Dynamic Light Spot and the anti-dazzle LED High-Beam Assistant. Rounding off the highlights of the BMW 7 Series are the BMW Parking Assistant that facilitates parking parallel to the road and an innovative Comfort Access function allowing hands-free opening of the boot lid.



## **New-generation Professional navigation system: display and control in the third dimension.**

The latest-generation Professional navigation system is compelling at first glance for its revised design and honed operating system. The tried-and-tested menu navigation has been consciously retained and augmented by further functions. The user interface has benefited from a complete graphic revision and now comprises 3D elements exclusively, while the entire architecture of the individual menus is now presented in virtual, three-dimensional spaces. Thanks to its 1.3 GHz processor and dedicated 3D graphics card, using the system with its high-quality animations and dynamic transitions is an experience, supported by imagery boasting unprecedented levels of contrast and brilliance.

### **Added functions instantly to hand.**

Along with the menu presentation, the navigation displays have likewise been revised and enhanced. The map displays and guidance information are now depicted with even greater brilliance and sharpness than before. Additional function bars, moreover, allow the map view to be customised quickly and simply without having to leave the map: the new function bars are superimposed as an extension of the original map bar and open up further options. This allows for weather updates to be superimposed, POIs to be displayed, or the map to be rapidly switched from top view to perspective view. Standardisation of the control bars in the multimedia sphere facilitates operation of a wide range of audio sources.

### **The PIE menu: greater operating convenience at a click.**

The interactive map view also comes with the option of selecting special functions directly from the map: using the iDrive Controller, the driver can mark a spot in the interactive map to open the PIE menu. This radial menu offers quick and easy access to a host of options. Depending on the information stored, the driver can have POIs in the area flagged up, read up on any stored details, start navigation to any of the points, alter the map view and have the current location or destination displayed. If further information on a POI – e.g. telephone number, online data or email address – is also stored, the driver can instantly access these and make a call, visit the homepage or compose an email.

### **Split-screen display with more detailed guidance views.**

The split screen in the central information display likewise comes with added functions. To facilitate the driver's orientation while entering the destination by selecting the country, city and road, the chosen location is additionally displayed in the map view on the split screen. If required, the zoom function can be used to verify whether the destination shown in the relevant section of the map is the intended one.

For the navigation process itself, the familiar low-level guidance via arrows in the split screen has now been joined by a high-level guidance variant. This is automatically activated when the driver reaches a certain point ahead of the next navigation instruction. From a specified distance, which varies according to the category of road, the arrow display turns into a schematic, perspectival view of the surroundings, offering the driver even better orientation thanks to its enhanced depiction of the location and precise lane guiding. For an optimal picture, the perspective view changes in stages to a top view of the junction or intersection as the vehicle approaches it, while a dynamic vehicle indicator pinpoints the car's current position.

Then there is the 3D city model option that offers an impressive view to aid navigation. If the relevant representation of the city is stored in the car, a highly realistic depiction of the surrounding streets and houses makes it easier for the driver to find his way around.

### **The mobile office: dictation function, voice memos and voice control.**

The latest-generation Professional navigation system features a full speech recognition function and optimised voice control system to complete the portfolio of office functions offered by Connected Drive as BMW further extends its innovative lead on this front as well.

Thanks to the full speech recognition system, the dictation function gives drivers the opportunity, for the first time, to dictate text freely and compose short text-based messages simply by saying what they wish to write. Just a few seconds after dictation has been completed, the transcribed text appears in the display and can be read out if desired. As you would expect, drivers also have a number of simple-to-use, speech-based editing tools available to them for putting the final touches to e-mails and SMS messages easily and, most importantly, safely. The multilingual system can recognise six languages.

A further speech-based option to enhance office functionality is voice memos which can be sent directly by email if required. The great advantage to the motorist is the ability to swiftly store ideas or to-do items and send them to the relevant addressee(s) – without being distracted from what's happening on the road. The recorded memos can be stored on a USB stick for use outside the car.

Following the pattern of entering a destination with a single voice command, the optimised voice control feature of the Professional navigation system now allows all menu functions to be called up through simplified voice commands. If you want to make a phone call, for example, all you need to say is "Call Joe Bloggs." The system recognises that you wish to make a call and, after asking for verification of the number, makes the connection. A further advantage is the system's ability to recognise contact data irrespective of the format in which they are stored, and thus independently of first name and surname order. What's more, all submenu functions can now be activated or actions specified by speech input – from adjusting the radio and entering a destination to changing the route criteria. Voice control is becoming even simpler and easier to use.

Rounding off the new office functions is the further enhanced facility for simultaneously coupling two phones to the car at. The contact data of both phones are transferred to a shared list which is then available for making phone calls and sending emails. High-performance hardware means that calendar and contact information is displayed without delay, ensuring that both telephones are quickly ready for wide-ranging use in the vehicle.

### **The multifunctional instrument cluster display.**

In place of the classic instrument cluster in which four circular analogue dials inform the driver of speed, rpm, tank level and oil temperature, the new BMW 7 Series now offers, for the first time, the option of a multifunctional instrument display. The basic layout with four circular dials is retained, while a virtually invisible 10.25-inch integrated screen provides an entirely novel and engaging display experience that deliberately evokes modern electronic devices. It allows the driving experience modes COMFORT, SPORT and ECO PRO to be individually shown, for example. In addition to colour differentiation, the information content of the instruments is also varied

according to the driving mode selected, thus presenting the driver with a display that is optimally adapted to the situation at hand.

### **BMW Night Vision:**

#### **early pedestrian detection using Dynamic Light Spot.**

At the heart of the Night Vision system is an infrared thermal imaging camera integrated into the BMW kidney grille. This provides a live video image which clearly highlights any objects giving off heat, despite being far beyond the range of the high beam. The system recognises pedestrians, cyclists and animals in plenty of time, even when they are outside the headlights' beam of light. The automatic pedestrian recognition control unit then analyses the image to determine whether the vehicle is on a collision course with any pedestrians or cyclists. If a person at the roadside is deemed to be potentially at risk, a high-resolution icon will flash up in the central Control Display or the BMW Head-Up Display as a warning.

In addition to the visual and audible warnings, Dynamic Light Spots are now used to pinpoint the detected objects, allowing the driver to immediately make out any road users in danger in the dark and react in time. The new high-performance LED headlights are fitted on the outsides of the front apron in place of the foglamps, and are computer-controlled to swivel and illuminate the target object precisely. The High-Beam Assistant also intervenes if required to prevent the Dynamic Light Spots from dazzling other traffic. When they are not activated, the Dynamic Light Spots are dimmed to work together with the daytime running lights or low beam.

#### **Anti-dazzle LED High-Beam Assistant with intelligent control.**

The BMW 7 Series is now available with the option of full-LED headlights which provide a further safety boost when driving at night. The bright white light they emit illuminates the road ahead with an exceptional intensity. Together with the High-Beam Assistant, the Adaptive Headlights with cornering lights as well as variable headlight distribution, they continue to represent the ultimate in lighting technology. The anti-dazzle High-Beam Assistant in conjunction with full-LED headlights ensures that the driver can enjoy optimal visibility at all times without having to switch manually between high and low beam. The system uses a camera integrated into the rear-view mirror to identify vehicles travelling up to 400 metres (approx. ¼ mile) in front.

Oncoming traffic is picked up when it is still 1,000 metres (just under ¾ mile) away. With the High-Beam Assistant activated, the headlights are partially masked as and when required in order to eliminate the danger of dazzling vehicles as they draw closer. If necessary, however, the High-Beam Assistant can also adapt to the traffic situation by switching to low beam on one or both sides.

### **Active Protection monitors the driver's behaviour at the wheel.**

The BMW 7 Series now boasts an even more extensive Active Protection safety package thanks to the addition of the Attentiveness assistant. The system's electronics analyse driving behaviour on the basis of various signals such as steering angle, road speed and other engine parameters. If the system increasingly detects telltale signs of fatigue starting to build up, the central Control Display encourages the driver to take a break by displaying a coffee cup symbol.

At the start of every journey when the driver and front passenger fasten their seat belts, the Active Protection motorised belt retractors reduce any belt slack. If the car enters a critical pre-crash scenario, the driver and front passenger belts are pulled tight, and the side windows and sunroof are closed. Active Protection deduces that a collision is likely based on data from the front-mounted camera or radar, an emergency braking manoeuvre initiated by the driver, or the onset of heavy understeer or oversteer. If a crash is unavoidable, the system will automatically brake the car afterwards without any intervention required from the driver. Following the initial impact, the car is slowed to a standstill with a maximum deceleration rate of 5 m/s<sup>2</sup> and its brakes then locked for a further 1.5 seconds. This reduces the likelihood of – or even prevents – a secondary collision.

### **BMW Parking Assistant takes charge of manoeuvring into parking spaces.**

BMW Parking Assistant uses ultrasonic sensors integrated into the sides of the vehicle to help search for suitable parking spots. The system then helps the driver to manoeuvre safely and comfortably into parking spaces positioned parallel to the direction of travel. With the Parking Assistant activated and the car travelling at a slow speed of no more than 35 km/h (22 mph), a notification appears in the Control Display to alert the driver to suitable spaces that are at

least 1.20 metres (around 4 ft.) longer than the BMW 7 Series as he passes them. During the parking process, all the driver has to do is change gear, operate the accelerator and brake pedal, and keep an eye on the area around the car. The Parking Assistant then proceeds to take care of all the steering movements required to execute a precise reverse parking manoeuvre. A new bird's-eye view of the vehicle in the Control Display works in unison with the Park Distance Control to clearly visualise the distance to other objects and make it easier for the driver to monitor the parking process.

**Innovative boot access makes life a little easier.**

The BMW 7 Series now offers even greater ease of use with a hands-free boot lid opening function. Standing behind the car, a quick movement of the foot under the centre of the rear bumper is enough to prompt the boot to open without any use of the hands. The boot then automatically unlocks and swings open by spring force. For detection purposes, the vehicle is fitted with sensors placed at different heights in the rear bumper trim. The sensors can identify the foot "command" by monitoring the area of the leg between the shin and the tip of the foot. They then send a signal containing special algorithms to the onboard computer. Access is only authorised, however, if the system simultaneously identifies the Comfort Access control unit (the key), which the person must be carrying with him. The boot lid is then unlocked and raised automatically, without hand contact. Key authorisation provides the safeguard that ensures correct operation at all times.

**Yet more unrivalled driver assistance systems and mobility services.**

Apart from the highlights detailed above, BMW ConnectedDrive in the BMW 7 Series encompasses a host of sophisticated features and technologies designed to delight anyone seeking supreme convenience and safety. These include the existing full-colour BMW Head-Up Display, BMW Assist Emergency Call with automatic vehicle location, as well as the full range of in-journey entertainment offered by BMW Online, all the office functions and BMW Apps.



## 6. Body and safety: Optimised protection and intelligent lightweight design as a founding principle.

The BMW 7 Series is built around an extremely rigid passenger cell that strikes a perfect balance between weight reduction on the one hand and solid construction on the other, enabling it to satisfy the most stringent safety standards. Large supporting structures with a high load-bearing capacity and the intelligent use of high and ultra-high-tensile multi-phase steels coupled with a large number of aluminium components maximise the strength of the safety passenger cell, while keeping weight low. The combination of aluminium roof and steel body is unique in this segment. Quite apart from the weight saving of some seven kilograms over a steel roof, the aluminium construction has the effect of lowering the vehicle's centre of gravity resulting in even sharper handling. The body's bonnet, front side panels, front spring struts and doors are all likewise made of aluminium on the BMW 7 Series. The doors alone shave a whole 22 kilograms or so off the weight. By incorporating a high-tech mix of materials, body strength has been increased by around 60 per cent compared to its predecessor, while torsional resistance is now some 20 per cent higher too. Not only do these advances boost passive safety, they form the ideal basis for majestic handling qualities.

### **Individual protection at every seat.**

The exemplary crash responses of the body, including precisely defined deformation zones, provide the best possible basis for the optimum design and set-up of the car's restraint systems. The BMW 7 Series is equipped as standard with front and side airbags for the driver and front passenger, plus head airbags for both rows of seats. Depending on the nature of the crash, integrated safety electronics ensure that only those airbags that are able to provide effective protection are actually deployed. Airbags that are not required therefore continue to be ready for action in the event of a possible secondary collision. All seats are fitted with three-point inertia-reel seat belts, and the driver and front passenger also have the benefit of belt latch tensioners.

### **Active head restraints lower the risk of injury.**

To guard against whiplash injuries following a collision from the rear, the front seats are fitted with crash-activated head restraints as standard that are

controlled by the safety electronics. In the event of such a collision, the system responds by causing the front part of the head restraint to shoot forwards by up to 60 millimetres and upwards by a maximum of 40 millimetres. The effect of this is to narrow the distance to the occupant's head before it starts to be thrown back by the force of the impact. Thanks to the active head restraints, there is therefore less risk of sustaining cervical spine injuries or hyperextension.

To minimise the risk of a collision occurring in the first place, an array of electronic aids can be found in the BMW 7 Series that make an active contribution to driving safety. The functions of the main assistance systems have already been described in detail in the chapter on BMW ConnectedDrive, but the most noteworthy accident prevention features include: the new full-LED headlights with anti-dazzle High-Beam Assistant that are making their debut in the BMW 7 Series, Adaptive Headlights including cornering lights and variable light distribution, the Active Protection system with Attentiveness assistant featuring an eCall function and automatic vehicle location, plus, to limit the risk of rear-end collisions, adaptive brake lights. If the driver brakes very heavily and the ABS system has to take corrective action, the LED brake lights flash conspicuously as a warning to drivers behind that they too should brake as hard as possible. After the vehicle has been braked to a particularly sharp stop, the hazard warning lights will additionally switch on automatically.



## 7. Specifications.

### BMW 740i, BMW 750i, BMW 760i.



		BMW 740i	BMW 750i	BMW 760i
<b>Body</b>				
No of doors/seats		4 / 5	4 / 5	4 / 5
Length/width/height (unladen)	mm	5079 / 1902 / 1471	5079 / 1902 / 1471	5079 / 1902 / 1471
Wheelbase	mm	3070	3070	3070
Track, front/rear	mm	1611 / 1650	1611 / 1650	1611 / 1650
Ground clearance	mm	152	152	152
Turning circle	m	12.2	12.2	12.2
Tank capacity	app ltr	80	80	80
Cooling system incl heater	ltr	10.2	12.6	14.7
Engine oil <sup>1)</sup>	ltr	6.5	9.0	10.5
Weight, unladen, to DIN/EU	kg	1825 (1900)	1940 (2015)	2105 (2180)
Max load to DIN	kg	650	640	590
Max permissible	kg	2515	2600	2695
Max axle load, front/rear	kg	1180 / 1415	1250 / 1425	1340 / 1435
Max trailer load (12%), braked/unbraked	kg	2100 / 750	2100 / 750	2100 / 750
Max roofload/max towbar downl	kg	100 / 100	100 / 100	100 / 100
Luggage comp capacity	ltr	500	500	500
Air drag	Cd x A	0.28 x 2.42	0.28 x 2.42	0.30 x 2.42
<b>Power Unit</b>				
Config/No of cyls/valves		In-line six / 4	V 8 / 4	V 12 / 4
Engine technology		BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)
Capacity, effective	cc	2979	4395	5972
Stroke / bore	mm	89.6 / 84.0	88.3 / 89.0	80.0 / 89.0
Compression ratio	:1	10.2	10.0	10.0
Fuel		min RON 91	min RON 91	min RON 91
Max output	kW/hp	235 / 320	330 / 449	400 / 544
at	rpm	5800	5500	5250
Max torque	Nm	450	650	750
at	rpm	1300-4500	2000-4500	1500-5000
<b>Electrical System</b>				
Battery/location	Ah/-	90 / luggage comp	90 luggage comp	90 / luggage comp
Alternator	AW	210 / 2940	210 / 2940	220 / 3080
<b>Driving Dynamics and Safety</b>				
Suspension, front		Double-track control arm axle with separate lower track arm level in aluminium construction, small steering roll radius, anti-dive		
Suspension, rear		Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment		
Brakes, front		Single-piston swing-calliper disc brakes / vented		
Brakes, rear		Single-piston fixed-calliper disc brakes / vented		
Driving stability systems		Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Dynamic Brake Control, Dry Braking, Fading Compensation, Start-Off Assistant, Dynamic Damping Control, optional: Dynamic Drive anti-roll stability management (standard in the BMW 760i)		
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyre Defect Indicator		
Steering		Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump		
Steering transmission, overall	:1	17.1	17.1	17.1
Tyres, front/rear		245/50 R18 100Y RSC	245/50 R18 100Y RSC	245/50 R18 100Y RSC
Rims, front/rear		8J x 18 light-alloy	8J x 18 light-alloy	8J x 18 light-alloy

BMW 740i			BMW 750i		BMW 760i
BMW ConnectedDrive					
Convenience			Optional: Rear Seat Entertainment, Comfort Access with contactless opening of the tailgate		
Infotainment			Optional: internet access, , Office functions, Speech to Text, BMW Routes, Online Update Music Tracks		
Safety			Optional: Adaptive Headlights with Cornering Lights, LED High-Beam Assistant, Park Distance Control, Side View, Top View, rear-view camera (standard in the BMW 760i), BMW Parking Assistant, BMW Night Vision with pedestrian detection + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with fatigue detection,		
Transmission					
Type of transmission			Eight-speed automatic transmission with Steptronic		
Gear ratios	I	:1	4.714	4.714	4.714
	II	:1	3.143	3.143	3.143
	III	:1	2.208	2.208	2.208
	IV	:1	1.667	1.667	1.667
	V	:1	1.285	1.285	1.285
	VI	:1	1.000	1.000	1.000
	VII	:1	0.839	0.839	0.839
	VIII	:1	0.667	0.667	0.667
	Reverse	:1	3.295	3.317	3.317
Final drive		:1	3.077	2.813	2.813
Performance					
Power-to-weight ratio	kg/kW		7.8	5.9	5.3
Output per litre	kW/hp		78.9	75.1	67.0
Acceleration	0–100 km/h	sec	5.7	4.8	4.6
	Standing start km	sec	25.2	22.9	22.5
Top speed	km/h		250	250	250
BMW EfficientDynamics					
BMW EfficientDynamics standard features			Auto Start-Stop function, ECO PRO mode, Brake Energy Regeneration, coasting mode, Varioserve steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced rolling resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control (standard in the BMW 760i)		
Fuel Consump EU Cycle					
Urban	ltr/100 km		10.6	11.9	19.6
Extra-urban	ltr/100 km		6.3	6.6	8.8
Combined	ltr/100 km		7.9	8.6	12.8
CO <sub>2</sub>	g/km		184	199	299
Emission rating			EU5	EU5	EU5
Insurance group					
KH /VK /TK			n.b.		

Specifications applicable to ACEA markets/homologation data applicable in part only to Germany (weight).

1) Oil change

# BMW 740Li, BMW 750Li, BMW 760Li.

		BMW 740Li	BMW 750Li	BMW 760Li
<b>Body</b>				
No of doors/seats		4 / 5	4 / 5	4 / 5
Length/width/height (unladen)	mm	5219 / 1902 / 1481	5219 / 1902 / 1481	5219 / 1902 / 1481
Wheelbase	mm	3210	3210	3210
Track, front/rear	mm	1611 / 1650	1611 / 1650	1611 / 1650
Ground clearance	mm	152	152	152
Turning circle	m	12,7	12,7	12,7
Tank capacity	app ltr	80	80	80
Cooling system incl heater	ltr	10,2	12,6	14,7
Engine oil <sup>1)</sup>	ltr	6,5	9,0	10,5
Weight, unladen, to DIN/EU	kg	1845 / 1920	1960 / 2035	2175 / 2250
Max load to DIN	kg	650	640	575
Max permissible	kg	2525	2610	2765
Max axle load, front/rear	kg	1190 / 1425	1260 / 1430	1350 / 1480
Max trailer load (12%), braked/unbraked	kg	2100 / 750	2100 / 750	2100 / 750
Max roofload/max towbar downl	kg	100 / 100	100 / 100	100 / 100
Luggage comp capacity	ltr	500	500	500
Air drag	Cd x A	0,28 x 2,42	0,28 x 2,42	0,30 x 2,42
<b>Power Unit</b>				
Config/No of cyls/valves		In line-six / 4	V 8 / 4	V 12 / 4
Engine technology		BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)
Capacity, effective	cc	2979	4395	5972
Stroke / bore	mm	89,6 / 84,0	88,3 / 89,0	80,0 / 89,0
Compression ratio	:1	10,2	10,0	10,0
Fuel		min. ROZ 91	min. ROZ 91	min ROZ 91
Max output	kW/hp	235 / 320	330 / 450	400 / 544
at	rpm	5800	5500	5250
Max torque	Nm/lb-ft	450	650	750
at	rpm	1300–4500	2000–4500	1500–5000
<b>Electrical System</b>				
Battery/location	Ah/–	90 // luggage comp	105 / luggage comp	90 / luggage comp
Alternator	AW	210 / 2940	210 / 2940	220 / 3080
<b>Driving Dynamics and Safety</b>				
Suspension, front		Double track control arm axle with separate lower track arm level in aluminium construction, small steering roll radius, anti-dive		
Suspension, rear		Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment		
Brakes, front		Single-piston swing-calliper disc brakes / vented		
Brakes, rear		Single-piston fixed-calliper disc brakes / vented		
Driving stability systems		Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Dynamic Brake Control, Dry Braking, Fading Compensation, Start-Off Assistant, Dynamic Damping Control, optional: Dynamic Drive anti-roll stability management (standard in the BMW 760Li)		
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyre Defect Indicator		
Steering		Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump		
Steering transmission, overall	:1	17,1		
Tyres, front/rear		245/50 R18 100Y RSC	245/50 R18 100Y RSC	245/50 R18 100Y RSC
Rims, front/rear		8J x 18 light-alloy	8J x 18 light-alloy	8J x 18 light-alloy

		BMW 740Li	BMW 750Li	BMW 760Li
<b>BMW ConnectedDrive</b>				
Comfort		Optional: Rearseat Entertainment, Comfort Access with contactless opening of the tailgate		
Infotainment		Optional: access to the internet, Office functions, Speech to Text, BMW Routes and online music title update		
Safety		Optional: Adaptive Headlights with Bending Lights (standard in the BMW 760Li), LED-High-Beam Assistant, Park Distance Control (standard in the BMW 760Li), Side View, Top View, back-up camera (standard in the BMW 760Li), BMW Night Vision with detection of persons + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with tiredness detection,		
<b>Transmission</b>				
Type of transmission		Eight-speed automatic transmission with Steptronic		
Gear ratios	I	:1	4,714	4,714
	II	:1	3,143	3,143
	III	:1	2,208	2,208
	IV	:1	1,667	1,667
	V	:1	1,285	1,285
	VI	:1	1,000	1,000
	VII	:1	0,839	0,839
	VIII	:1	0,667	0,667
	Reverse	:1	3,295	3,317
Final drive		:1	3,077	2,813
<b>Performance</b>				
Power-to-weight ratio	kg/kW	7,9	5,9	5,4
Output per litre	kW/hp	78,9	75,1	67,0
Acceleration 0–100 km/h	sec	5,7	4,8	4,6
Standing-start km	sec	25,2	22,9	22,8
Top speed	km/h	250	250	250
<b>BMW EfficientDynamics</b>				
BMW EfficientDynamics standard features		Auto StartStop-Function, ECO PRO Modus, Brake Energy Regeneration, Coasting Mode, Varioserv steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced roll resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control I (standard in the BMW 760Li)		
<b>Fuel Consump in EU Cycle</b>				
Urban	ltr/100 km	10,6	11,9	19,8
Extra-urban	ltr/100 km	6,3	6,6	8,9
Combined	ltr/100 km	7,9	8,6	12,9
CO <sub>2</sub>	g/km	184	199	303
Emission rating		EU5	EU5	EU5

Specifications applicable to ACEA markets/homologation data applicable in part only to Germany (weight).

1) Oil change

# BMW ActiveHybrid 7, BMW ActiveHybrid 7 L.

BMW ActiveHybrid 7		BMW ActiveHybrid 7 L
<b>Body</b>		
No of doors/seats	4 / 5	4 / 5
Length/width/height (unladen)	mm 5079 / 1902 / 1471	5219 / 1902 / 1481
Wheelbase	mm 3070	3210
Track, front/rear	mm 1611 / 1650	1611 / 1650
Ground clearance	mm 152	152
Turning circle	m 12.2	12.7
Tank capacity	app ltr 80	80
Cooling system incl heater	ltr 10.4	10.5
Engine oil <sup>1)</sup>	ltr 6.5	6.5
Weight, unladen, to DIN/EU	kg 1970 (2045)	1995 (2070)
Max load to DIN	kg 590	590
Max permissible	kg 2575	2585
Max axle load, front/rear	kg 1210 / 1450	1210 / 1470
Max trailer load (12%), braked/unbraked	kg ---	---
Max roofload/max towbar downl	kg 100 / ---	100 / ---
Luggage comp capacity	ltr 360	360
Air drag	Cd x A 0.28 x 2.42	0.28 x 2.42
<b>Power Unit</b>		
Config/No of cyls/valves	In-line six / 4	In-line six / 4
Engine technology	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)	BMW TwinPower Turbo, second-generation direct injection (High Precision Injection)
Capacity, effective	cc 2979	2979
Stroke / bore	mm 89.6 / 84.0	89.6 / 84.0
Compression ratio	:1 10.2	10.2
Fuel	min RON 91	min RON 91
Max output	kW/hp 235 / 320	235 / 320
at	rpm 5800	5800
Max torque	Nm 450	450
at	rpm 1300-4500	1300-4500
Output electric motor	kW/hp 40 / 55	40 / 55
Torque electric motor	Nm 210	210
System output	kW/hp 260 / 354	260 / 354
<b>Electrical System</b>		
Battery/location	Ah/- 90 / luggage comp	90 / luggage comp
Alternator	AW 200 / 2800	200 / 2800
<b>Driving Dynamics and Safety</b>		
Suspension, front	Double track control arm axle with separate lower track arm level in aluminium construction, small steering roll radius, anti-dive	
Suspension, rear	Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment	
Brakes, front	Single-piston swing-calliper disc brakes / vented	
Brakes, rear	Single-piston fixed-calliper disc brakes / vented	
Driving stability systems	Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake	
Safety equipment	Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyre Defect Indicator	
Steering	Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump	
Steering transmission, overall	:1 17.1	
Tyres, front/rear	245/50 R18 100Y RSC	245/50 R18 100Y RSC
Rims, front/rear	8J x 18 light-alloy	8J x 18 light-alloy

BMW ActiveHybrid 7			BMW ActiveHybrid 7 L	
BMW ConnectedDrive				
Convenience		Optional: Rear Seat Entertainment, Comfort Access with contactless opening of the tailgate		
Infotainment		Optional: internet access, Office functions, Speech to Text, BMW Routes, Online Update Music Tracks		
Safety		Optional: Adaptive Headlights with Cornering Lights, LED High-Beam Assistant, Park Distance Control, Side View, Top View, rear-view camera, BMW Parking Assistant, BMW Night Vision with pedestrian detection + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with fatigue detection,		
Transmission				
Type of transmission		Eight-speed automatic transmission with Steptronic		
Gear ratios	I	:1	4.714	4.714
	II	:1	3.143	3.143
	III	:1	2.208	2.208
	IV	:1	1.667	1.667
	V	:1	1.285	1.285
	VI	:1	1.000	1.000
	VII	:1	0.839	0.839
	VIII	:1	0.667	0.667
	Reverse	:1	3.317	3.317
Final drive		:1	2.929	2.929
Performance				
Power-to-weight ratio	kg/kW	8.4	8.5	
Output per litre	kW/hp	78.9	78.9	
Acceleration 0–100 km/h	sec	5.7	5.7	
Standing start km	sec	25.2	25.2	
Top speed	km/h	250	250	
BMW EfficientDynamics				
BMW EfficientDynamics standard features		BMW ActiveHybrid, Auto Start-Stop function, ECO PRO mode, Brake Energy Regeneration, Coasting and Green Driving Assistant, Varioserve steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced rolling resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control		
Fuel Consump EU Cycle				
Urban	ltr/100 km	6.0	6.0	
Extra-urban	ltr/100 km	7.2	7.2	
Combined	ltr/100 km	6.8	6.8	
CO <sub>2</sub>	g/km	158	158	
Emission rating		EU5	EU5	

Specifications applicable to ACEA markets / homologation data applicable in part only to Germany (weight)

1) Oil change

# BMW 730i, BMW 730Li.

		BMW 730i	BMW 730Li
<b>Body</b>			
No of doors/seats		4 / 5	4 / 5
Length/width/height (unladen)	mm	5079 / 1902 / 1471	5219 / 1902 / 1481
Wheelbase	mm	3070	3210
Track, front/rear	mm	1611 / 1650	1611 / 1650
Ground clearance	mm	152	152
Turning circle	m	12.2	12.7
Tank capacity	app ltr	80	82
Cooling system incl heater	ltr	8.1	8.1
Engine oil <sup>1)</sup>	ltr	6.5	10.5
Weight, unladen, to DINEU	kg	1765 (1840)	1790 (1865)
Max load to DIN	kg	660	660
Max permissible	kg	2505	2510
Max axle load, front/rear	kg	1160 / 1425	1170 / 1425
Max trailer load (12%), braked/unbraked	kg	2100 / 750	2100 / 750
Max roofload/max towbar downl	kg	100 / 100	100 / 100
Luggage comp capacity	ltr	500	500
Air drag	Cd x A	0.28 x 2.42	0.28 x 2.42
<b>Power Unit</b>			
Config/No of cyls/valves		In-line six / 4	In-line six / 4
Engine technology		Second-generation direct injection (High Precision Injection)	Second-generation direct injection (High Precision Injection)
Capacity, effective	cc	2996	2996
Stroke / bore	mm	88.0 / 85.0	88.0 / 85.0
Compression ratio	:1	10.7	10.7
Fuel		min RON 91	min RON 91
Max output	kW/hp	190 / 258	190 / 258
at	rpm	6600	6600
Max torque	Nm	310	310
at	rpm	2600–3000	2600–3000
<b>Electrical System</b>			
Battery/location	Ah/–	90 / luggage comp	90 / luggage comp
Alternator	AW	210 / 2940	210 / 2940
<b>Driving Dynamics and Safety</b>			
Suspension, front		Double-track control arm axle with separate lower track arm level in aluminium construction, small steering roll radius, anti-dive	
Suspension, rear		Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment	
Brakes, front		Single-piston swing-calliper disc brakes / vented	
Brakes, rear		Single-piston fixed-calliper disc brakes / vented	
Driving stability systems		Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Dynamic Brake Control, Dry Braking, Fading Compensation, Start-Off Assistant, Dynamic Damping Control, optional: Dynamic Drive anti-roll stability management	
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyre Defect Indicator	
Steering		Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump	
Steering transmission, overall	:1	17.1	17.1
Tyres, front/rear		245/55 R17 102W	245/55 R17 102W RSC
Rims, front/rear		8J x 17 light-alloy	8J x 17 light-alloy

BMW 730i			BMW 730Li	
BMW ConnectedDrive				
Convenience		Optional: Rear Seat Entertainment, Comfort Access with contactless opening of the tailgate		
Infotainment		Optional: internet access, Office functions, Speech to Text, BMW Routes, Online Update Music Tracks		
Safety		Optional: Adaptive Headlights with Cornering Lights, LED High-Beam Assistant, Park Distance Control, Side View, Top View, rear-view camera, BMW Parking Assistant, BMW Night Vision with pedestrian detection + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with fatigue detection,		
Transmission				
Type of transmission		Eight-speed automatic transmission with Steptronic		
Gear ratios	I	:1	4.714	4.714
	II	:1	3.143	3.143
	III	:1	2.208	2.208
	IV	:1	1.667	1.667
	V	:1	1.285	1.285
	VI	:1	1.000	1.000
	VII	:1	0.839	0.839
	VIII	:1	0.667	0.667
	Reverse	:1	3.295	3.295
Final drive		:1	3.462	3.462
Performance				
Power-to-weight ratio	kg/kW	9.3	9.4	
Output per litre	kW/hp	63.4	63.4	
Acceleration 0–100 km/h	sec	7.4	7.5	
Standing start km	sec	27.4	27.5	
Top speed	km/h	250	250	
BMW EfficientDynamics				
BMW EfficientDynamics standard features		Auto Start-Stop function, ECO PRO mode, Brake Energy Regeneration, coasting mode, Varioserve steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced rolling resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control		
Fuel Consump EU Cycle				
Urban	ltr/100 km	12.4	126	
Extra-urban	ltr/100 km	6.3	6.4	
Combined	ltr/100 km	8.6	8.7	
CO <sub>2</sub>	g/km	199	199	
Emission rating		EU5	EU5	

Specifications applicable to ACEA markets / homologation data applicable in part only to Germany (weight)

1) Oil change



# BMW 730d, BMW 740d.

BMW 730d		
<b>Body</b>		
No of doors/seats		4 / 5
Length/width/height (unladen)	mm	5079 / 1902 / 1471
Wheelbase	mm	3070
Track, front/rear	mm	1611 / 1650
Ground clearance	mm	152
Turning circle	m	12.2
Tank capacity	app ltr	80
Cooling system incl heater	ltr	8.8
Engine oil <sup>1)</sup>	ltr	7.2
Weight, unladen, to DIN/EU	kg	1840 / 1915
Max load to DIN	kg	640
Max permissible	kg	2505
Max axle load, front/rear	kg	1180 / 1405
Max trailer load (12%), braked/unbraked	kg	2100 / 750
Max roofload/max towbar downl	kg	100 / 100
Luggage comp capacity	ltr	500
Air drag	Cd x A	0.28 x 2.42
<b>Power Unit</b>		
Config/No of cyls/valves		In-line six / 4
Engine technology	Turbocharger with variable intake geometry, common-rail direct fuel injection with piezo injectors (max injection pressure: 1800 bar)	
Capacity, effective	cc	2993
Stroke / bore	mm	90.0 / 84.0
Compression ratio	:1	16.5
Fuel		Diesel
Max output	kW/hp	190 / 258
at	rpm	4000
Max torque	Nm	560
at	rpm	1500
<b>Electrical System</b>		
Battery/location	Ah/–	90 / luggage comp
Alternator	A/W	180 / 2.520
<b>Driving Dynamics and Safety</b>		
Suspension, front	Double-track control arm axle with separate lower track arm level in aluminium, small steering roll radius, anti-dive	
Suspension, rear	Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment (air suspension with self-levelling standard on long-wheelbase version)	
Brakes, front	Single-piston swing-calliper disc brakes / vented	
Brakes, rear	Single-piston swing-calliper disc brakes / vented	
Driving stability systems	Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Dynamic Brake Control, Dry Braking, Fading Compensation, Start-Off Assistant, Dynamic Damping Control; optional: Dynamic Drive anti-roll stability management	
Safety equipment	Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyres Defect Indicator	
Steering	Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump	
Steering transmission, overall	:1	17.1
Tyres, front/rear	245/55 R17 102W RSC	
Rims, front/rear	8J x 17 light-alloy	

BMW 730d			BMW 740d
BMW ConnectedDrive			
Convenience		Optional: Rear Seat Entertainment, Comfort Access with contactless opening of the tailgate	
Infotainment		Optional: internet access, Office functions, Speech to Text, BMW Routes, Online Update Music Tracks	
Safety		Optional: Adaptive Headlights with Cornering Lights, LED High-Beam Assistant, Park Distance Control, Side View, Top View, rear-view camera, BMW Parking Assistant, BMW Night Vision with pedestrian detection + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with fatigue detection	
Transmission			
Type of transmission		Eight-speed automatic transmission with Steptronic function	
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.208
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	Reverse	:1	3.317
Final drive		:1	2.563
Performance			
Power-to-weight ratio	kg/kW	9.7	
Output per litre	kW/hp	63.5	
Acceleration 0–100 km/h	sec	6.1	
Standing start km	sec	26.3	
Top speed	km/h	250	
BMW EfficientDynamics			
BMW EfficientDynamics standard features		Auto Start-Stop function, ECO PRO mode, Brake Energy Regeneration, coasting mode, Varioserve steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced rolling resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control	
Fuel Consump EU Cycle			
Urban	ltr/100 km	6.8	
Extra-urban	ltr/100 km	4.8	
Combined	ltr/100 km	5.6	
CO <sub>2</sub>	g/km	148	
Emission rating		EU5	

Specifications applicable to ACEA markets / homologation data applicable in part only to Germany (weight)

# BMW 730Ld.

6.		BMW 730Ld
<b>Body</b>		
No of doors/seats		4 / 5
Length/width/height (unladen)	mm	5219 / 1902 / 1481
Wheelbase	mm	3210
Track, front/rear	mm	1611 / 1650
Ground clearance	mm	152
Turning circle	m	12.7
Tank capacity	app ltr	80
Cooling system incl heater	ltr	8.8
Engine oil <sup>1)</sup>	ltr	7.2
Weight, unladen, to DIN/EU	kg	1875 / 1950
Max load to DIN	kg	640
Max permissible	kg	2535
Max axle load, front/rear	kg	1190 / 1410
Max trailer load (12%), braked/unbraked	kg	2100 / 750
Max roofload/max towbar downl	kg	100 / 100
Luggage comp capacity	ltr	500
Air drag	Cd x A	0.28 x 2.42
<b>Power Unit</b>		
Config/No of cyls/valves		In-line six / 4
Engine technology		Turbocharger with variable intake geometry, common-rail direct fuel injection with piezo injectors (max. pressure: 1800 bar)
Capacity, effective	cc	2993
Stroke / bore	mm	90.0 / 84.0
Compression ratio	:1	16.5
Fuel		Diesel
Max output	kW/hp	190 / 258
at	rpm	4000
Max torque	Nm	560
at	rpm	1500
<b>Electrical System</b>		
Battery/location	Ah/–	105 // luggage comp
Alternator	AW	180 / 2520
<b>Driving Dynamics and Safety</b>		
Suspension, front		Double-track control arm axle with separate lower track arm level in aluminium construction, small steering roll radius, anti-dive
Suspension, rear		Integral-V multi-arm axle in aluminium with steering function, anti-squat and anti-dive, double acoustic separation, air suspension with automatic height adjustment
Brakes, front		Single-piston swing-calliper disc brakes / vented
Brakes, rear		Single-piston swing-calliper disc brakes / vented
Driving stability systems		Standard: DSC incl ABS and DTC Dynamic Traction Control, CBC Cornering Brake Control, DBC Dynamic Brake Control, Dry Braking, Fading Compensation, Start-Off Assistant, Dynamic Damping Control, optional: Dynamic Drive anti-roll stability management
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags front and rear, active headrests at the front, three-point inertia-reel seat belts on all seats, belt latch tensioners at the front, crash sensors, Tyre Defect Indicator
Steering		Electronic Power Steering (EPS) with speed-related steering assistance (Servotronic) and CO <sub>2</sub> -optimised pump
Steering transmission, overall	:1	17.1
Tyres, front/rear		245/55 R17 102W RSC
Rims, front/rear		8J x 17 light-alloy

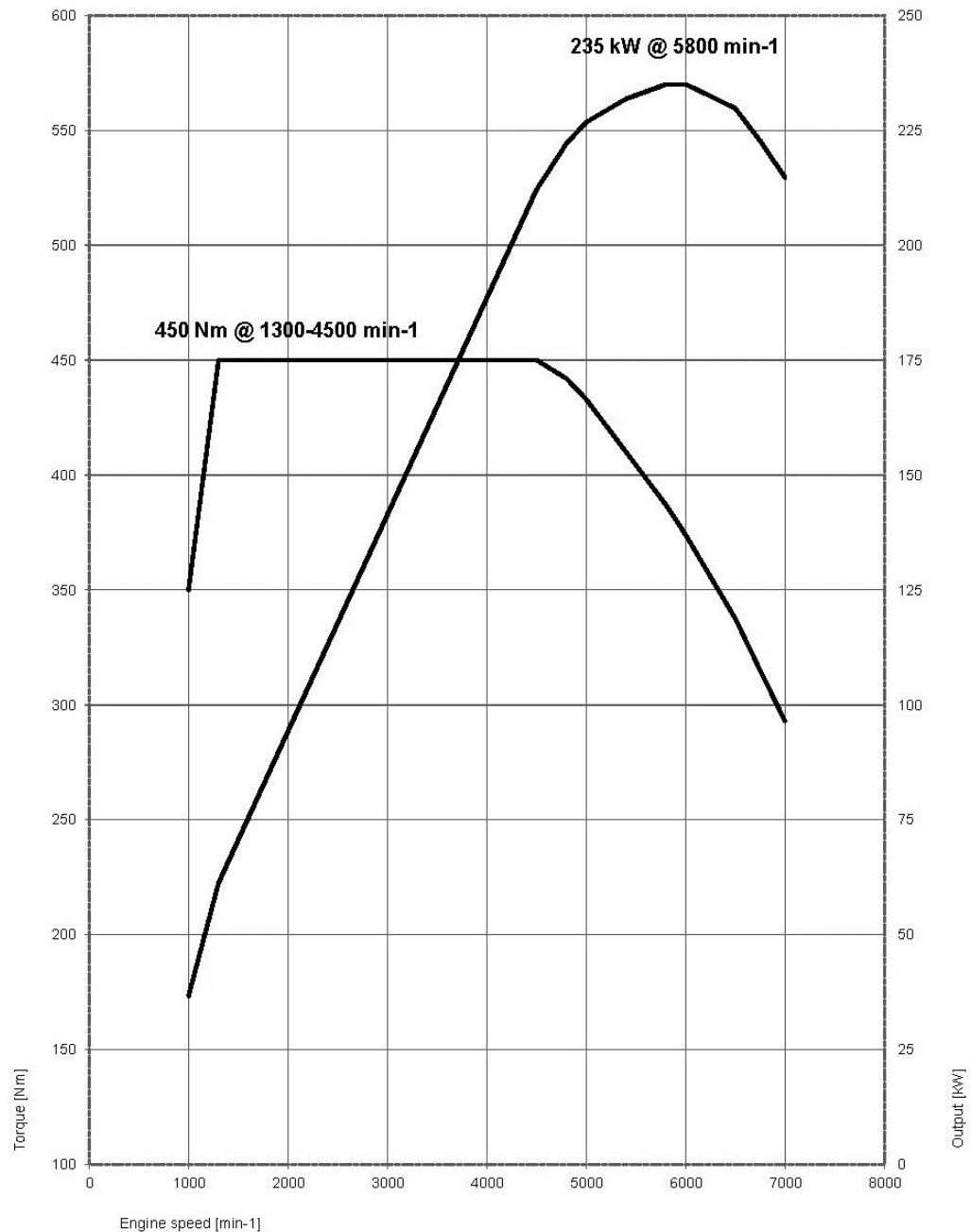
BMW 730Ld			
BMW ConnectedDrive			
Convenience		Optional: Rear Seat Entertainment, Comfort Access with contactless opening of the tailgate	
Infotainment		Optional: internet access, Office functions, Speech to Text, BMW Routes, Online Update Music Tracks	
Safety		Optional: Adaptive Headlights with Cornering Lights, LED High-Beam Assistant, Park Distance Control, Side View, Top View, rear-view camera, BMW Parking Assistant, BMW Night Vision with pedestrian detection + Dynamic Light Spots, Head-Up Display, Lane Departure Warning, Active Protection with fatigue detection	
Transmission			
Type of transmission		Eight-speed automatic transmission with Steptronic function	
Gear ratios	I	:1	4.714
	II	:1	3.143
	III	:1	2.208
	IV	:1	1.667
	V	:1	1.285
	VI	:1	1.000
	VII	:1	0.839
	VIII	:1	0.667
	Reverse	:1	3.317
Final drive		:1	2.563
Performance			
Power-to-weight ratio	kg/kW	9.9	
Output per litre	kW/hp	63.5	
Acceleration 0–100 km/h	sec	6.2	
Standing start km	sec	26.4	
Top speed	km/h	250	
BMW EfficientDynamics			
BMW EfficientDynamics standard features		Auto Start-Stop function, ECO PRO mode, Brake Energy Regeneration, coasting mode, Varioserve steering assistance pump, intelligent lightweight technology, air flap control, on-demand fuel pump, on-demand coolant pump, final drive with optimised thermal management, tyres with reduced rolling resistance, a/c compressor detachable, optional Dynamic Drive with on-demand pump control	
Fuel Consump EU Cycle			
Urban	ltr/100 km	6.8	
Extra-urban	ltr/100 km	4.8	
Combined	ltr/100 km	5.6	
CO <sub>2</sub>	g/km	148	
Emission rating		EU5	

Specifications applicable to ACEA markets / homologation data applicable in part only to Germany (weight)

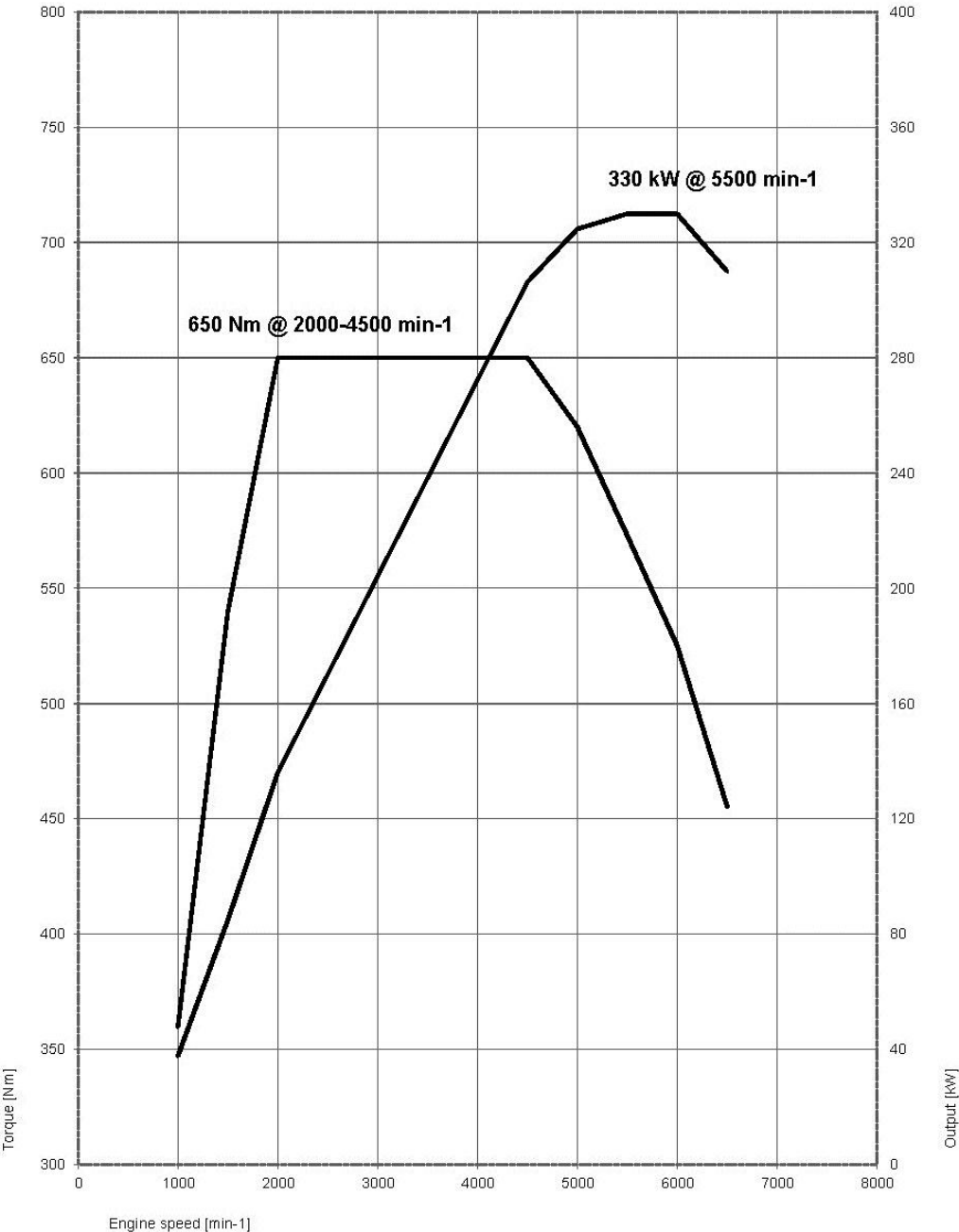
1) Oil change



## 8. Output and torque diagrams. BMW 740i, BMW 740Li, BMW ActiveHybrid 7, BMW ActiveHybrid 7 L.

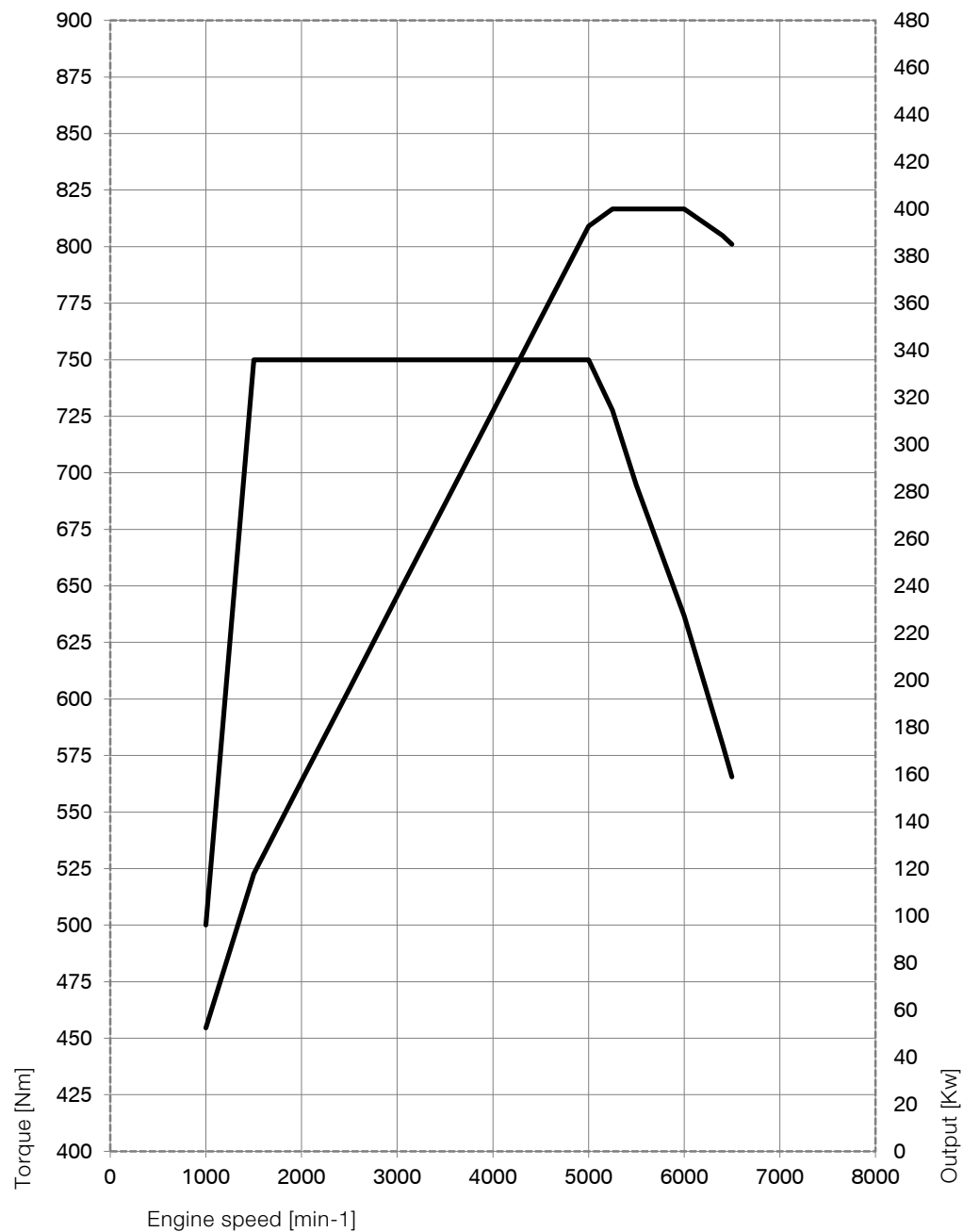


# BMW 750i, BMW 750Li.

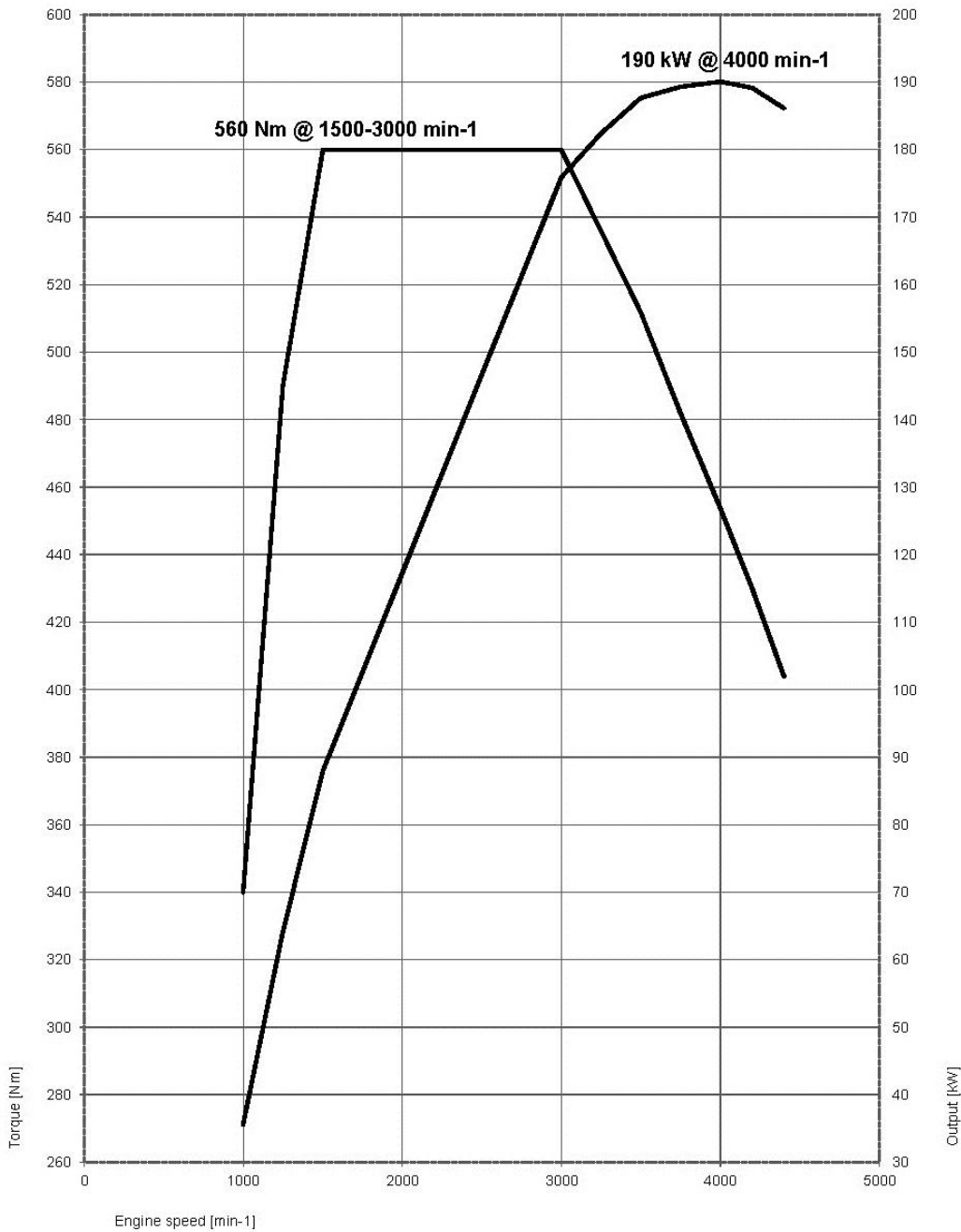


# BMW 760i

# BMW 760Li.



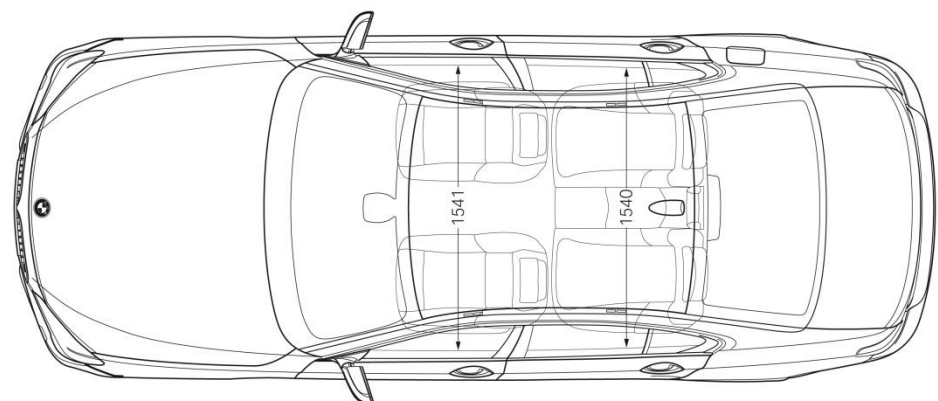
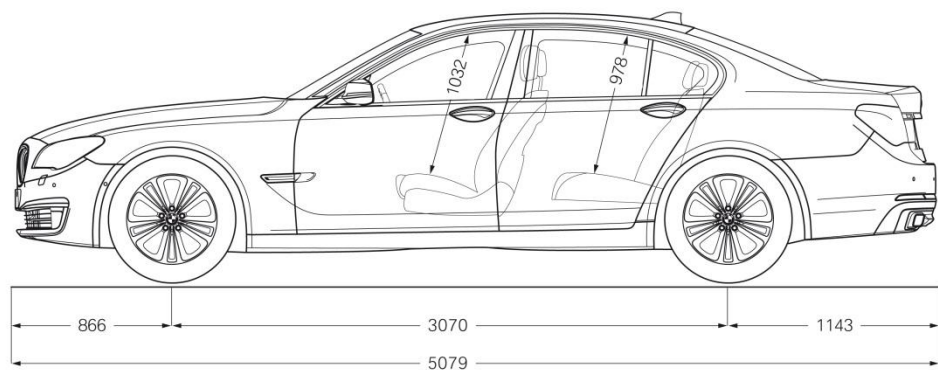
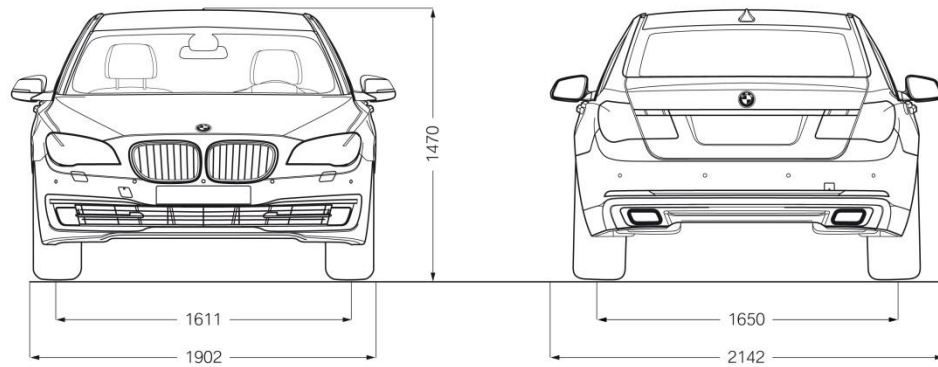
# BMW 730d, BMW 730Ld.







## 9. Exterior and interior dimensions. BMW 7 Series.



# BMW 7 Series long-wheelbase version.

