

# The BMW 5 Series Gran Turismo. Contents.



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# 1. The BMW 5 Series Gran Turismo. Description in Brief.



- BMW is once again defining a brand-new segment in the automobile market. The BMW 5 Series Gran Turismo combines elegance, space, comfort and variability in truly unique style. As an attractive, future-oriented extension of the BMW 5 Series, the BMW 5 Series Gran Turismo is quite unparalleled worldwide in the upper middle segment, combining the characteristic features of a prestige saloon, a modern, highly versatile Sports Activity Vehicle, and a classic Gran Turismo in brand-new, unprecedented style.
- Through its body design, the BMW 5 Series Gran Turismo combines the proportions so typical of a BMW, an elegantly stretched silhouette and a coupé-like roofline, as well as four doors with frameless windows to create one complete, harmonious unit. The front view of the car animates powerful dynamism through the sheer presence of the upright BMW kidney grille, large air intakes and dual round headlights slanted back at an attractive angle. For the first time the daytime driving light function is provided by corona rings with LED technology. Boasting clear-cut horizontal lines, the rear end comes with that characteristic look of width, power and muscle further enhanced by L-shaped rear light clusters with homogeneously illuminated rows of lights in LED technology.
- The luxurious and, for a car with this kind of coupé-like silhouette, surprisingly generous and variable interior gives both the driver and passengers a spontaneous feeling of comfort and well-being. This superior feeling is further enhanced by comfortable entry to the car, the slightly elevated seating position, the large window areas, the optional panorama glass roof, as well as exquisite materials and supreme quality of finish.
- Flexibly adjustable, the interior of the BMW 5 Series Gran Turismo enables the driver and passengers to vary the generous space inside the car as they wish to their individual, personal requirements. In their standard position, the rear seats offer the passengers the same kind of legroom as in the BMW 7 Series combined with the same headroom as in the BMW X5. In this configuration, luggage capacity is already an ample 440 litres or 15.4 cu ft. Thanks to the partition behind the rear seats, the passenger and luggage compartments are separated acoustically and in terms of climate conditions from one another like in a saloon. When required, the rear seats may be moved individually to the front by up to 100 millimetres or almost 4", with

legroom still remaining the same as in the BMW 5 Series Saloon and an increase in luggage capacity to 590 litres or 20.7 cu ft. And after folding down the rear-seat backrests together with the partition, finally, luggage space increases to its maximum capacity of 1,700 litres or 59.5 cu ft.

- Offering unique functionality, the two-piece tailgate on the BMW 5 Series Gran Turismo provides exceptional variability and maximum comfort in loading the luggage compartment. Opening the small, sedan-like luggage compartment lid beneath the rear window, with the tailgate as such remaining closed, the driver and passengers are able to conveniently load the rear compartment without causing any unpleasant noise, draughts or changes in temperature within the passenger compartment. To load large and bulky objects, on the other hand, all they have to do is open the large tailgate for maximum convenience.
- The sheer space and the inspiring, modern design of the interior team up to provide a truly luxurious ambience and the supreme long-distance comfort of a modern Gran Turismo. The sleek surfaces on the front and rear door panels merging smoothly into one another as well as the horizontal arrangement of the instrument panel enhance the impression of supreme generosity. Seat comfort, headroom and elbow freedom are all of the highest standard otherwise to be found only in the luxury performance class. The slightly elevated seating position, the clear, structured arrangement of the controls, BMW's new iDrive with its Control Display up to 10.2 inches in size, and the cockpit in Black Panel technology all help to give the driver maximum supremacy at all times. The rear seats may be adjusted individually fore-and-aft and also come with individual adjustment of the backrest angle. To meet the greatest demands in terms of individual luxury, finally, two individual comfort seats at the rear are available as an option.
- The BMW 5 Series Gran Turismo is entering the market with a choice of no less than three ultra-modern drive units carrying over BMW EfficientDynamics into a new segment in the automobile world. The BMW 530d Gran Turismo offers a truly unique, unparalleled balance of driving experience and fuel economy with average fuel consumption in the EU test cycle of just 6.5 litres/100 kilometres, equal to 43.5 mpg imp, and a CO<sub>2</sub> rating of 173 g/km. The two gasoline models also set new standards for efficiency in their respective engine class.

- As a world-first achievement introducing a new and even more efficient range of engines, the BMW 535i Gran Turismo comes with the first straight-six gasoline engine featuring TwinPower Turbo, High Precision Injection and VALVETRONIC and developing maximum output of 225 kW/306 hp. The top engine in the range, finally, is the V8 TwinPower Turbo delivering maximum output of 300 kW/407 hp in the BMW 550i Gran Turismo. The BMW 530d Gran Turismo, in turn, comes with a 180 kW/245 hp straight-six diesel of the latest generation with an all-aluminium crankcase and common-rail direct fuel injection. All engines naturally fulfil the EU5 emission standard.
- All model variants come as standard with the eight-speed automatic transmission previously to be admired only in the BMW 760i twelve-cylinder luxury saloon. Featuring an innovative configuration of gearsets, a unique level of internal efficiency, and the same low weight and compact dimensions as a six-speed automatic transmission, this high-tech automatic combines gearshift comfort, dynamic performance, and motoring efficiency of the highest calibre. The most advanced engine technology, the innovative eight-speed automatic transmission, and a wide range of unique technologies in the context of BMW EfficientDynamics allow the BMW 5 Series Gran Turismo to set new standards also in terms of economy and emission management.
- The modern, demanding suspension technology of the BMW 5 Series Gran Turismo is designed for both fascinating driving dynamics and supreme grand touring comfort. The double track control arm front axle and the Integral-V rear axle exclusive to BMW are made largely of aluminium. Standard features also include rear axle air suspension as well as hydraulic rack-and-pinion steering with a steering servo pump operating on demand. Integral Active Steering is available as an option, combining active steering of the front wheels with rear-wheel steering varying according to driving conditions and current requirements.
- Featured as standard, Dynamic Drive Control influences not only the gearshift dynamics, but also the gas pedal and steering assistance control map. In combination with optional Adaptive Drive, the dampers with infinite variation on both the inbound and rebound stroke contribute to the superior suspension function. In addition to the NORMAL, SPORT and SPORT+ programs, the driver also has the choice of the COMFORT mode available directly from the Dynamic Drive Control button on the centre console. A further point is that intervention in DSC Dynamic Stability Control is reduced in the SPORT+ setting and in the traction mode.

- The optimised body structure in conjunction with appropriately coordinated and electronically masterminded passive safety systems ensures maximum occupant safety at all times. These systems include three-point inertia-reel seat belts on all seats, frontal and side airbags as well as head airbags at the side, crash-activated headrests at the front, runflat tyres and a tyre defect indicator. The standard features include foglamps and adaptive brake lights, with bi-xenon dual headlights including a daytime driving light function as well as Adaptive Headlights with variable light distribution and Bending Lights all coming as an option.
- The BMW 5 Series Gran Turismo is also available as an option with the complete range of features from BMW ConnectedDrive, including Cruise Control with Stop & Go, a High-Beam Assistant, Lane Change Warning, Lane Departure Warning, Speed Limit Info, BMW Night Vision with detection of individual persons, Side View, Top View, and a back-up camera. Over and above these outstanding features, BMW ConnectedDrive also offers BMW Online, BMW Assist, BMW TeleServices, as well as an Enhanced Emergency Call function automatically determining and reporting the current location of the car.
- The wide range of standard features offered by the BMW 5 Series Gran Turismo includes automatic air conditioning, an audio system, an AUX-In connector bush, and the Integrated Owner's Manual. Optional features include four-zone automatic air conditioning (standard in the BMW 550i Gran Turismo), telecommunication and navigation systems, a USB port, an 80 GB hard disc for navigation data and the user's private music collection, a multi-channel audio system, a DAB double tuner, a DVD entertainment system at the rear, a Head-Up Display, a panorama glass roof optimised for noise control and attractive design, as well as an electrically swivelling trailer hook.
- Engine variants:  
BMW 535i Gran Turismo: straight-six gasoline engine with TwinPower Turbo, High Precision Injection and VALVETRONIC,  
Capacity: 2,979 cc,  
max output: 225 kW/306 hp at 5,800 rpm,  
max torque: 400 Nm/295 lb-ft from 1,200–5,000 rpm,  
Acceleration 0–100 km/h: 6.3 seconds,  
Top speed: 250 km/h (155 mph),  
Average fuel consumption to the EU standard: 8.9 Liter/100 kilometres,  
equal to 31.7 mpg imp,  
CO<sub>2</sub> emissions to the EU standard: 209 g/km,  
emission standard: EU5

BMW 550i Gran Turismo:

V8 gasoline engine with TwinPower Turbo and High Precision Injection

Capacity: 4,395 cc,

max output: 300 kW/407 hp from 5,500–6,400 rpm,

max torque: 600 Nm/442 lb-ft from 1,750–4,500 rpm

Acceleration 0–100 km/h: 5.5 seconds

Top speed: 250 km/h (155 mph)

Average fuel consumption to the EU standard: 11.2 litres/100 kilometres,

equal to 25.2 mpg imp

CO<sub>2</sub> emissions to the EU standard: 263 g/km,

emission standard: EU5

BMW 530d Gran Turismo:

straight-six diesel engine with aluminium crankcase and third-generation

common-rail direct fuel injection (piezo-injectors),

max injection pressure: 1,800 bar

Capacity: 2,993 cc,

max output: 180 kW/245 hp at 4,000 rpm,

max torque: 540 Nm/398 lb-ft from 1,750–3,000 rpm

Acceleration 0–100 km/h: 6.9 seconds

Top speed: 240 km/h (149 mph)

Average fuel consumption to the EU standard: 6.5 litres/100 kilometres,

equal to 43.5 mpg imp

CO<sub>2</sub> emissions to the EU standard: 173 g/km,

emission standard: EU5

## 2. Creating a New Dimension. The BMW 5 Series Gran Turismo. (Short Version)



Establishing an unprecedented, absolutely innovative car concept, BMW is setting fascinating new highlights in the upper midrange segment. As the world's first model in a brand-new segment, the BMW 5 Series Gran Turismo combines essential features of a prestige saloon, a modern Sports Activity Vehicle, and a classic Gran Turismo.

Stylish and elegant in design, this unique four-seater comes with a coupé-like, stretched and sleek roofline and a two-piece tailgate. The extra-large interior offers luxurious comfort, a slightly elevated seating position for comfortable and convenient access as well as superior all-round visibility covering all traffic conditions, and truly impressive variability.

As its name alone indicates, the BMW 5 Series Gran Turismo is ideally suited for a truly wonderful travel experience. The luxurious ambience immediately makes the driver and passengers feel at home, legroom at the rear is the same as in the BMW 7 Series, headroom is equal to that of the BMW X5. The tilt angle of the rear-seat backrests, in turn, adjusts individually to the respective, personal requirements of the passengers. And with the rear seats moving fore-and-aft up to 100 millimetres or almost 4", together with the backrests tilting forward completely if required, luggage capacity may be enlarged up to 1,700 litres or 59.5 cu ft.

Engines both powerful and efficient, Dynamic Drive Control featured as standard, the most advanced suspension technology, and innovative driver assistance systems, help to ensure a truly unique driving experience.

### **BMW EfficientDynamics entering a new segment.**

The drivetrain technology featured on the new BMW 5 Series Gran Turismo likewise comes with a wide range of innovations, the benefits provided by BMW EfficientDynamics now introduced in yet another car segment providing a uniquely good balance of superior performance and supreme fuel economy.

A further highly significant point is the introduction of a new straight-six power unit in the BMW 535i Gran Turismo, for the first time combining turbocharger technology, High Precision Injection, and BMW's fully variable VALVETRONIC valve management. Displacing 3.0 litres, the BMW TwinPower Turbo delivers

225 kW/306 hp at an engine speed of 5,800 rpm, with an equally outstanding, spontaneous and direct response as well as peak torque kept consistently at 400 Newton-metres/295 lb-ft from 1,200–5,000 rpm.

The top-of-the-range power unit is the V8 TwinPower Turbo with High Precision Injection in the BMW 550i Gran Turismo, developing maximum output of 300 kW/407 hp between 5,500 and 6,400 rpm.

The BMW 530d Gran Turismo, to round off the range, offers particular highlights in terms of all-round economy. Its latest-generation 3.0-litre straight-six diesel comes with an all-aluminium crankcase as well as common-rail direct fuel injection with piezo-injectors, delivers 180 kW/245 hp at 4,000 rpm, and gives the car average fuel consumption in the combined EU cycle of just 6.5 litres/100 kilometres (equal to 43.5 mpg imp), as well as a CO<sub>2</sub> emission rating of just 173 grams per kilometre, both figures absolutely unique for a vehicle of this size and calibre.

All engines naturally fulfil the EU5 emission standard. In addition, all variants of the BMW 5 Series Gran Turismo come with an innovative eight-speed automatic transmission combining an extremely quick gearshift with maximum efficiency.

Through its wide range of qualities, the BMW 5 Series Gran Turismo meets all the demands of a modern target group looking for a vehicle providing perfect harmony in meeting all kinds of requirements and demands in life – both as a prestigious and elegant company car and as an active leisure-time vehicle.

Introducing this kind of concept, BMW is therefore once again proving the Company's ability to define brand-new vehicle segments in the market, with the new BMW 5 Series Gran Turismo making a powerful entry into the world of motoring as a completely new dimension. This new, unprecedented and unparalleled car adds a further facet to the world of Sheer Driving Pleasure, arousing new enthusiasm for the BMW brand also with additional target groups.

**Design: versatile sportiness, stylish elegance.**

In its exterior design, the BMW 5 Series Gran Turismo offers a unique combination of versatile sportiness and stylish elegance. Proportions typical of BMW, four doors with frameless windows and a coupé-like stretched roofline all come together in perfect harmony authentically reflecting the many qualities of the car.



The front view is characterised first and foremost by the strong presence of the low-slung BMW kidney grille, the large air intakes and the characteristic dual round headlights. The BMW kidney grille itself is slanted slightly to the front, its upper edge forming the foremost point on the body. The dual round headlights likewise slanted at an angle and extending far into the side panels merge at the top into a matt trim cover, thus generating the clearly focused look so typical of the BMW brand.

**Characteristic: daytime driving lights and rear light clusters in LED technology.**

Apart from the direction indicators, the corona rings on the headlights come for the first time with LED light units. In standard trim the light rings serve as the car's positioning lights, while in combination with optional xenon headlights their LED units may be operated in two stages: Dimmed to approximately 10 per cent of their full power, the LED light units serve as positioning lights. Operated at full power, on the other hand, they act as daytime driving lights in a particularly brilliant white again in that typical BMW look.

Boasting a roofline dropping slowly but consistently towards the rear of the car and merging into a spoiler at the back, the BMW 5 Series Gran Turismo successfully and very attractively conveys a feature typical of a coupé to a four-door car. The doors both front and rear come with frameless side windows.

A further feature immediately recognisable from the side is the waistline at the level of the door openers characteristic of BMW, extending from the outer edge of the headlights, rising slightly along the entire length of the car, and continuing all the way to the contours of the rear light clusters.

The two outer rooflines as well as the shoulder lines come together in the airflow spoiler on the tailgate, giving the fastback-like rear end an almost compact look. Otherwise, horizontal lines dominate the rear view of the car, with the look of power and muscle being further underlined by the wheel arches flared far to the outside.

The rear light clusters merge far into the side panels, ensuring that the full width of the BMW 5 Series Gran Turismo also comes out clearly in the car's night design. Rows of lights fed by LED light units provide a homogenous light pattern, again giving the BMW 5 Series Gran Turismo a distinctive look on the road and making sure that the car is always clearly recognisable.

**The interior: generous space and comfort, individual luxury.**

The unique feeling of space within the BMW 5 Series Gran Turismo is enhanced by the shape and design of the interior features, the interior colour scheme, and the choice of materials. The dashboard is subdivided horizontally and comes with a cockpit featuring Black Panel technology and a Control Display for BMW iDrive measuring up to 10.2" in size.

Apart from the electronic gear selector lever, the switches for Dynamic Drive Control as well as the iDrive Controller are arranged conveniently on the centre console.

Both the driver and front passenger benefit from their slightly elevated seating position, this so-called semi-command position allowing very comfortable and ergonomically ideal entry to the car and providing an optimised overview of traffic conditions in the area.

The impression of a self-contained space surrounding – or, even more appropriately, cocooning – the car's occupants is further enhanced by the harmonious shapes and colours of the panels on the front and rear doors. The interplay of ascending and descending lines and contours throughout the entire length of the interior creates a homogenous picture forming an optimum link connecting the front and rear seats.

As an alternative to the rear-seat bench for three passengers featured as standard, with individual adjustment of seat fore-and-aft position as well as the backrest angle on all seats, the BMW 5 Series Gran Turismo is available as an option with two single seats at the rear, in which case fore-and-aft adjustment of the seat position as well as the backrest angle, the upper section of the backrest and the height of the headrest is all-electric. And as yet a further highlight, ambient illumination of the interior of the BMW 5 Series Gran Turismo featured as standard may be supplemented by additional light sources.

**Even greater comfort when loading: two-piece tailgate and partition between the passenger and the luggage compartments.**

The two-piece tailgate featured for the first time on a BMW ensures maximum comfort and variability when loading. The two sections offer the choice of a small opening beneath the rear window and a large lid like on BMW's X models.

Both sections may be opened and closed individually, with the large tailgate featuring Soft Close Automatic.

The unique partition between the passenger compartment and the luggage compartment ensures unrestricted comfort also while loading. Whenever, with the partition closed, the driver and passengers open only the lower section of the tailgate, the passenger compartment will not be affected in any way while loading by draughts or other effects of weather, or by any noise or acoustic annoyance.

As long as the rear seats and the partition are in their standard position, luggage compartment capacity is 440 litres or 15.4 cu ft. Moving the seats forward and unfastening the partition increases luggage capacity to 590 litres or 20.7 cu ft. And when folding down the rear-seat backrests as well as the partition, the driver and passengers benefit from no less than 1,700 litres or 59.5 cu ft.

### **New straight-six power unit: first-ever combination of turbocharging and VALVETRONIC.**

The BMW 5 Series Gran Turismo is entering the market with a choice of two gasoline engines and one diesel power unit. A particular highlight in this context is the newly developed straight-six gasoline engine now making its debut and for the first time combining turbocharger technology, High Precision Injection, and variable VALVETRONIC valve management all in one. This unique combination gives the new BMW TwinPower Turbo an extremely spontaneous and direct response to the gas pedal, exceeding even the excellent response already offered by BMW's existing straight-six turbocharged engine.

This truly impressive response is the result of VALVETRONIC technology optimised once again as well as the turbocharger system applying the twin scroll principle to separate the ducts of three cylinders at a time both in the exhaust manifold and the turbocharger.

BMW's High Precision Injection has also been enhanced to an even higher standard of direct fuel injection technology. Now HPI features new injection nozzles precisely dosing the supply of fuel and operating at a pressure of up to 200 bar in the combustion chambers.

Displacing 3.0 litres, the new six-cylinder develops maximum output of 225 kW/306 hp at 5,800 rpm, with peak torque of 400 Newton-metres/295 lb-ft available all the way from 1,200–5,000 rpm.

Benefitting from this kind of power, the BMW 535i Gran Turismo accelerates from a standstill to 100 km/h in just 6.3 seconds. The car's top speed, in turn, is limited electronically to 250 km/h or 155 mph.

The exceptionally good balance of performance and fuel economy is clearly confirmed by average fuel consumption in the EU test cycle of just 8.9 litres/100 kilometres, equal to 31.7 mpg imp. And at the same time the CO<sub>2</sub> rating of the BMW 535i Gran Turismo is just 209 grams per kilometre.

### **Eight-cylinder with BMW TwinPower Turbo and High Precision Injection.**

The top engine in the BMW 5 Series Gran Turismo is a unique V8 combining TwinPower Turbo technology with High Precision Injection. Displacing 4.4 litres, this outstanding power unit develops maximum output of 300 kW/407 hp in a speed range from 5,500–6,400 rpm. Peak torque, in turn, is 600 Newton-metres/442 lb-ft generated all the way from 1,750 to 4,500 rpm.

This unparalleled V8 is the most efficient engine of its type and, at the same time, the world's only gasoline engine with the turbocharger and catalytic converters arranged within the V-section between the two rows of cylinders.

The BMW 550i Gran Turismo accelerates from a standstill to 100 km/h in just 5.5 seconds, with top speed limited electronically to 250 km/h or 155 mph. Average fuel consumption of the BMW 550i Gran Turismo in the EU test cycle, in turn, is 11.2 litres/100 kilometres, equal to 25.2 mpg imp, while CO<sub>2</sub> emissions are 263 grams per kilometre.

### **Efficiency and pulling power: latest generation of diesel technology.**

The straight-six diesel in the BMW 530d Gran Turismo clearly presents the latest state of the art in BMW engine development. Displacing 3.0 litres, this ultra-modern power unit comes with an all-aluminium crankcase, its turbo-charger system with variable intake geometry providing a highly dynamic but smooth flow of power tailored harmoniously to current driving conditions.

Fuel is supplied by the latest generation of common-rail fuel injection using piezo-injectors operating at a maximum pressure of 1,800 bar. In practice, this means engine output of 180 kW/245 hp at 4,000 rpm, with peak torque of 540 Newton-metres/398 lb ft from just 1,750 rpm.

The BMW 530d Gran Turismo accelerates to 100 km/h in just 6.9 seconds and reaches a top speed of 240 km/h or 149 mph. This sporting performance comes together with average fuel consumption of just 6.5 litres/100 kilometres (equal to 43.5 mpg imp) in the EU test cycle. And the CO<sub>2</sub> rating of the BMW 530d Gran Turismo, finally, is just 173 grams per kilometre.

**Innovative, dynamic, efficient: eight-speed automatic transmission featured as standard.**

All model variants come as standard with the eight-speed automatic transmission so far available only in the twelve-cylinder BMW 760i luxury performance saloon. This new transmission combines gearshift comfort, sportiness and efficiency of a standard never seen before, serving to an even greater extent to reduce fuel consumption and emissions to a level even lower than with BMW's six-speed automatic transmissions used so far.

The new eight-speed automatic transmission excels through its innovative gearset configuration providing additional gears and an even wider range of gear increments without any negative effect on the size, weight, and inner efficiency of the system.

All variants of the BMW 5 Series Gran Turismo come as standard with BMW EfficientDynamics, the various technologies offered varying from one model to the other according to its particular character. Among other features, Brake Energy Regeneration, on-demand control of the car's ancillary units such as the electrical coolant pump, the electrical steering assistance pump, the map-controlled oil pump and the detachable a/c compressor, as well as consistent lightweight technology, optimised aerodynamics including active management and control of the air flaps and, finally, tyres with minimum roll resistance ensure optimum fuel economy and emission management.

**Cutting-edge suspension technology for even greater comfort, dynamism, and precision.**

The modern suspension technology of the BMW 5 Series Gran Turismo serves to ensure a wonderful motoring experience, driving supremacy and outstanding safety at all times and under all conditions. One of the features that makes this possible is the combination of a double track control arm front axle and an Integral-V rear axle. In addition, the BMW 5 Series Gran Turismo comes as standard with air suspension on the rear axle, 18- and, respectively, 19-inch light-alloy wheels (the latter on the BMW 550i Gran Turismo), and a high-performance brake system.

DSC Dynamic Stability Control, finally, also comprises an electromechanical parking brake with its own Auto-Hold function.

As an alternative to hydraulic rack-and-pinion steering with Servotronic featured as standard, the BMW 5 Series Gran Turismo is available as an option with Integral Active Steering featured for the first time on the new BMW 7 Series.

As function of road speed, this unique steering influences steering forces by way of Servotronic and the steering angle by means of the Active Steering Transmission on the front axle.

Integral Active Steering also controls the steering angle on the rear wheels, thus giving the BMW 5 Series Gran Turismo even greater agility in city traffic and ensuring extremely smooth and superior lane change and handling in bends also at high speeds.

**Optional for even greater dynamics and additional comfort:  
Adaptive Drive.**

The BMW 5 Series Gran Turismo is available as an option with Adaptive Drive combining electronically controlled dampers and active anti-roll stabilisation. These highly innovative dampers adjust individually both to road conditions and the driver's style of motoring in order to prevent any undesired movement of the car.

BMW is the world's first car maker to use a damper system with the adjustment of the inbound and rebound strokes in a continuous, independent process. At the same time active anti-roll bars on the front and rear axle reduce body sway in bends to an absolute minimum, thus providing an even higher standard of comfort and agility.

**Featured as standard: Dynamic Drive Control for individual set-up  
of the car according to current requirements.**

The BMW 5 Series Gran Turismo comes as standard with Dynamic Drive Control for an individual set-up of the car in all its main features. This high-tech system influences the progressive curve on the gas pedal, engine response, the map control line for steering assistance, the gearshift dynamics on the eight-speed automatic transmission, and the response thresholds of DSC Dynamic Stability Control.

Dynamic Drive Control is activated by a button on the centre console directly next to the gear selector lever. Using this toggle function, the driver is able to choose among the NORMAL, SPORT, and SPORT+ modes. In combination with Adaptive Drive, the system also serves to control the damper curves by way of Dynamic Drive Control, in this case providing the additional COMFORT mode as a further option.

### **Innovative in design and construction: aluminium doors and panorama glass roof.**

Apart from the engine compartment lid and the front spring struts on the body, the doors on the BMW 5 Series Gran Turismo are also made of aluminium. Serving as an outstanding design and construction feature, they reduce the overall weight of the car by 28 kg or 62 lb. And as a further highlight the BMW 5 Series Gran Turismo is the first large-scale production car from BMW to feature frameless windows in aluminium shell structure.

The panorama glass roof available as an option on the BMW 5 Series Gran Turismo provides an even brighter and, at the same time, more spacious ambience throughout the interior. Measuring 116 centimetres or 45.6" in length and 94.2 centimetres or 37.1" in width, the panorama glass roof provides an opening of up to 44 centimetres or 17.3". With the rear glass section bolted firmly to the body of the car, body stiffness is enhanced accordingly for even smoother driving conditions.

### **Optimum occupant safety on all seats.**

Extra-strong load-bearing structures, generously dimensioned and exactly defined deformation zones, as well as highly efficient restraint systems master-minded by high-performance control electronics set the standard for the high level of passive safety the BMW 5 Series Gran Turismo has to offer. To optimise passive pedestrian safety, in turn, both the engine compartment lid and the side panels give way individually in the event of a collision.

Over and above frontal and hip/thorax airbags, the car's standard safety features include curtain head airbags at the side, three-point inertia-reel airbags with belt force limiters, ISOFIX child seat fastenings at the rear and, on the front seats, belt latch tensioners as well as crash-activated headrests.

The BMW 5 Series Gran Turismo is available as an option with bi-xenon headlights. The Adaptive Headlights likewise available as an option ensure appropriate illumination of the road ahead, following bends and winding roads in a flexible line.

The Bending Light function is integrated in the headlights, while a further feature of the Adaptive Headlights is variable light distribution for optimum illumination of the road ahead also when driving straight ahead.

### **BMW ConnectedDrive and the most advanced driver assistance systems.**

A number of features coming either as standard or as an option on the BMW 5 Series Gran Turismo are exclusive developments offered only by BMW. The leadership in technology BMW has to offer comes out, inter alia, in the cockpit and climate control featuring Black Panel technology, the iDrive control system complete with direct selection buttons, the unique range of optional navigation and audio systems with a hard disc memory, the Head-Up Display as well as the exceptional choice of innovative driver assistance systems.

The options for exchanging information among the driver, his car and the surroundings provided by BMW ConnectedDrive are equally unique. And last but certainly not least, the range of mobility services providing traffic information, an emergency call function, vehicle, enquiry and office services, travel and leisure-time planning facilities as well as internet connections is again unparalleled the world over.

The driver assistance systems provided by BMW ConnectedDrive ensure maximum supremacy and safety on the road. These include the High-Beam Assistant, Lane Change Warning, Lane Departure Warning and Speed Limit Info. The new generation of BMW Night Vision able to detect individual persons in the BMW 5 Series Gran Turismo, in turn, sets new standards in avoiding accidents while driving at night.

The wide range of features offered as standard, regular equipment include cruise control complete with a brake function, while Active Cruise Control with Stop & Go comes as an option, maintaining a consistent distance from the vehicle ahead by intervening in drive management and building up brake pressure whenever required.

### **Keeping a close eye on everything: PDC Park Distance Control, Back-Up Camera, Side View and Top View.**

The new BMW 5 Series Gran Turismo comes as standard with PDC Park Distance Control at the rear, with PDC available at the front as an optional extra. This is supplemented by a Back-Up Camera, with Side View and Top View also available as an option. Side View uses two cameras integrated in the front wheel arches enabling the driver to check out traffic coming from the side at an early point. Top View provides an even more detailed overview of road conditions with the help of two additional cameras integrated in the rear-view mirrors.



Data provided by the Side View cameras, by the Back-Up Camera and the PDC sensors on the vehicle and its surroundings is processed by a central computer generating an overall image presented in the Control Display and showing both the car and its surroundings from a bird's eye perspective.

### **Automatic air conditioning and personal entertainment for your individual well-being.**

Featured as standard, automatic air conditioning in the BMW 5 Series Gran Turismo is controlled in all its settings by an array of buttons on the centre console. This allows the driver and front passenger to set the temperature, the amount and the distribution of air via the control unit on the climate control panel, individually for the right- and left-hand side of the car.

Four-zone automatic air conditioning standard in the BMW 550i Gran Turismo and coming as an option on the other model variants also allows individual adjustment of temperature, air volume and distribution at the rear left and right and comes complete with a separate control unit on the rear centre console.

Likewise featured as standard on the BMW 5 Series Gran Turismo, the audio system boasts both a CD player and an AUX-In port. A hard disc memory, in turn, makes the optional navigation system Professional particularly easy and convenient to use. With its capacity of 80 GB, the memory allows particularly fast access to the digital navigation maps and offers no less than 12 GB additional capacity for a large collection of music files.

Optional features include a six-DVD changer, a TV module, and a Digital Audio Broadcasting (DAB) receiver.

The entertainment systems available on the rear seats of the BMW 5 Series Gran Turismo with their 8 and, respectively, 9.2-inch screens integrated in the backrests of the front seats ensure particularly comfortable and pleasant motoring.

### **Hands-free communication thanks to full integration of mobile phones and Smartphones.**

The optional mobile phone preparation kit complete with a Bluetooth interface allows additional safety and superior comfort in making telephone calls while driving. A snap-in adapter including a USB port comes as yet a further option for the full integration of Smartphones with an MP3 function. Using this option, the driver and passenger are able to use both the communication and entertainment functions of their mobile phone and mastermind all functions via iDrive.

To provide even greater transport capacity, the BMW 5 Series Gran Turismo is available with a towbar moving in and out fully automatically by means of a switch in the luggage compartment. So operating the towbar manually, with the risk of getting dirty in the process, is now a thing of the past. Maximum trailer load is 2,100 kg or 4,630 lb.

With its unique body concept, a truly luxurious interior ambience, superior drivetrain and suspension technology, and innovative equipment features, the BMW 5 Series Gran Turismo offers exactly the right standard of modern mobility in our modern times. It fulfils the demands and expectations of motorists looking for a generous driving experience, appreciating an exclusive ambience, and enjoying the benefits of a variable interior. In a nutshell, therefore, the BMW 5 Series Gran Turismo presents the status and elegant style of an upper midrange model in an individual rendition oriented to the user's personal requirements.

### 3. **Concept: Harmony of Elegance, Space, Comfort and Function.**



- BMW once again defines a brand-new vehicle segment.
- First-ever combination of an elegant saloon, a modern SUV, and a classic Gran Turismo in all their features.
- Spontaneous well-being and superior variability of the interior.

Sheer Driving Pleasure is once again gaining yet another fascinating aspect, with the world's most successful manufacturer of premium cars defining a brand-new vehicle segment.

The BMW 5 Series Gran Turismo is the first car in the world to combine the essential features of a prestige saloon, a modern Sports Activity Vehicle, and a classic Gran Turismo all in one, naturally in brand-new style and in a new interpretation. Stylish elegance, luxurious comfort and impressive variability therefore come together in a unique form to create one harmonious unit.

The BMW 5 Series Gran Turismo enriches the upper midrange segment by an innovative new concept for a demanding target group with a modern lifestyle characterised both by a demanding professional life as well as spontaneous, multi-faceted activities in their leisure time.

For many years BMW has changed the global automobile market time and again through the introduction of brand-new, highly successful vehicle concepts. And now, like the world's first Sports Activity Vehicle, the BMW X5, and the still one-and-only rear-wheel-drive compact premium model, the BMW 1 Series, the BMW 5 Series Gran Turismo, benefiting from BMW's huge innovative potential, is paving the way into future-oriented market segments.

Through its unique concept alone, this revolutionary new car meets the challenges arising from the need for up-to-date mobility. Accordingly, it offers ideal opportunities to create additional enthusiasm for the brand beyond the target groups BMW has covered so far.

### **Intelligent concept for modern mobility.**

The BMW 5 Series Gran Turismo offers an up-to-date concept of modern mobility. The focus, in particular, is on motorists expecting truly generous style, appreciating an exclusive ambience, and able to use the benefits of a variable interior. Hence, the BMW 5 Series Gran Turismo is exactly the right car to meet all these requirements. It represents the elegant style of an upper midrange model in individual interpretation tailored to the personal needs and requirements of its users.

The BMW 5 Series Gran Turismo is both a unique and a highly appealing option for the discerning motorist with a clear eye for classic features such as elegance, luxury, and premium quality, but also with a versatile and spontaneous lifestyle and therefore with an open mind for innovative concepts. This unique car reflects the new demands of drivers looking for a vehicle with harmonious solutions for all kinds of requirements in life, both in their prestigious and elegant professional lifestyle and in their active leisure time.

### **Luxurious comfort and impressive variability.**

The interior of the BMW 5 Series Gran Turismo combines space and comfort, personal luxury and an exquisite choice of materials to provide a truly outstanding premium experience. The exclusive ambience of the car is borne out in particular by the spacious, high-quality interior with its many features. Indeed, this innovative interpretation of generosity ensures well-being from the start both on the front seats and at the rear, at the same time offering ideal conditions for motoring in truly relaxed style.

Like the seats at the front, the rear seats may also be adjusted independently of one another and in many ways to meet individual requirements. All seats move individually fore-and-aft, and the backrests are individually adjustable for angle.

The BMW 5 Series Gran Turismo comes as standard with a three-seat bench at the rear, with the option to choose two individual comfort seats including a centre console and electrical adjustment also at the rear.

Regardless of the rear-seat configuration chosen, all seats offer the same legroom in their standard position as the rear seats in the BMW 7 Series. Headroom, in turn, is the same as in the BMW X5, thus giving both the driver and front passenger as well as the passengers at the rear an outstanding first-class motoring experience on the road.

Folding down with utmost convenience and adjusted fore-and-aft by up to 100 millimetres or nearly 4", the rear seats also allow the user to vary luggage capacity individually as required, with a total range between 440 and 1,700 litres (15.4–59.5 cu ft).

Further innovative highlights enhancing both the comfort and variability of the BMW 5 Series Gran Turismo are the flexible partition and the two-piece tailgate. The unique partition between the passenger and luggage compartments gives the passengers unrestricted acoustic and climate comfort also while loading and unloading, without any additional noise or draughts. For whenever the driver and passengers open up only the lower section of the tailgate with the partition in place, the passenger compartment will not be affected by draughts, weather conditions or noise during loading or unloading operations.

### **BMW EfficientDynamics in a new vehicle segment.**

The BMW 5 Series Gran Turismo with its unique combination of versatile qualities naturally comes with all the sporting performance so characteristic of the brand. As the name of the car alone indicates, this new model is suited ideally for a generous grand touring experience, at the same time offering Sheer Driving Pleasure right from the start in everyday motoring. So from the very first mile, the driving experience comes with that unique dynamism so typical of BMW, combined with up-to-date efficiency ensuring outstandingly low fuel consumption and emissions.

The latest achievements and technologies offered by BMW EfficientDynamics also give the BMW 5 Series Gran Turismo an unparalleled balance of performance and fuel economy. The most advanced drivetrain technology including a brand-new straight-six gasoline engine as the first representative of a completely new engine generation for worldwide use, and the new eight-speed automatic transmission featured for the first time in combination with eight- and six-cylinder engines, ensures a supreme level of dynamic performance, motoring comfort, and driving efficiency.

The fuel economy and emission ratings of the BMW 530d Gran Turismo confirm the particularly high standard of BMW EfficientDynamics in a new vehicle segment. For both average fuel consumption of 6.5 litres/100 kilometres, equal to 43.5 mpg imp, determined in the EU test cycle, and a CO<sub>2</sub> rating of 173 grams per kilometre, are quite simply unparalleled in a car of this size and with this kind of performance.

## 4. Design: Versatile Sportiness, Stylish Elegance, Individual Luxury.



- Proportions typical of BMW as a clear sign of dynamic performance.
- Long wheelbase and stretched roofline like on a coupé.
- Sophisticated, modern and generous interior design for spontaneous well-being.

As the first representative of a completely new car segment, the BMW 5 Series Gran Turismo, through its exterior design alone, offers a unique combination of versatile sportiness and stylish elegance. Proportions typical of BMW, four doors with frameless windows and a coupé-like roofline all come together to form one harmonious unit authentically reflecting the many qualities of the car.

The interior of the BMW 5 Series Gran Turismo is a unique blend of generosity, inspiring, modern style, and luxury tailored specifically to the personal requirements of the car's occupants. High-class materials, uncompromising premium quality and innovative design features including, for example, the intelligent, flowing lines of the door panels, create the ideal ambience for spontaneous well-being both on the driver's and front passenger's seats and at the rear of the BMW 5 Series Gran Turismo.

The particular look of the BMW 5 Series Gran Turismo so typical of the brand results in particular from the car's proportions. The long engine compartment lid, generous wheelbase of no less than 3.07 metres or 121", and the greenhouse moved far to the rear all come together to create that dynamic look so characteristic of a BMW.

These features are combined with innovative elements highlighting the unique qualities of the new concept. The extra-large passenger cell, for example, bears clear testimony to the luxurious variability of the interior right from the start. The coupé-like roofline, in turn, merging into the air spoiler lip at the rear, interprets the stylish elegance of a Gran Turismo in a completely new manner.

### **Front view as a strong sign of power and motion.**

The front view of the BMW 5 Series Gran Turismo is characterised by the strong presence of the low-slung BMW kidney grille, the large air intakes, and the dual round headlights so typical of the brand. The BMW kidney grille itself is slanted slightly to the front, its upper edge marking the foremost point on the body. The sheer presence of the kidney grille is then further enhanced by the surrounding areas set somewhat further back.

All contour lines on the engine compartment lid and extending out of the side panels of the car seemingly urge to the front, towards the powerful kidney grille. The centre air intake beneath the grille, in turn, is reduced in height and the contours of the headlights tapered out towards the middle of the car.

Like the BMW kidney grille in its sheer size, the Powerdome on the engine compartment lid bears clear testimony to the superior muscle of the engine itself lurking within the passenger compartment. Together with the wheel arches flared far out to the side, the downward-pointing outer flanks on the engine compartment lid boast a cascade-like contour giving the front end of the BMW 5 Series Gran Turismo a particularly wide and powerful look.

This impression is further enhanced by the foglamps positioned on the outer edges of the air intake, just as the bright bars finished in Matt Titanium dividing the two outer elements of the air intake and extending over the foglamps accentuate the horizontal and therefore extra-wide look of the front end.

### **Dual round headlights typical of BMW, unique LED corona rings for the positioning and daytime driving lights.**

The inclined dual round headlights extending far into the side panels are further accentuated by the surrounding trim band. Cylindrical in shape, the headlights merge at the top into a matt trim panel acting as the headlight cover and accentuating the typical look of the brand with its strong focus on motion and mobility.

Apart from the direction indicators, the corona rings in the headlights are for the first time formed by LED light units generating a particularly homogenous and bright light to add new and appealing quality to that unique look so characteristic of BMW.

To provide this effect, the LED light units are connected directly to the light ring, creating a consistently illuminated circle of light all round again so typical of a BMW, instead of the conventional light dots.

LED light rings are also featured as standard in the positioning lights of the BMW 5 Series Gran Turismo. In combination with the optional xenon lights, the LED light units may indeed be operated in two performance stages: dimmed to approximately 10 per cent of their full power, they serve as positioning lights. Operating at full power, on the other hand, they act as daytime driving lights again in that typical BMW look.

**Side view: coupé-like roofline, stretched elegance.**

With its smooth flow of lines, the BMW 5 Series Gran Turismo once again creates that harmonious connection between the front end of the car, the side view and the rear end so typical of BMW design. A dominating feature from the side is the characteristic waistline on the level of the door openers as yet another sign of BMW. Starting at the outer edge of the headlights, this special contour line rises slightly along the entire length of the car and finally merges into the contours of the rear light clusters.

Again very striking in its look, the sill line continues into the upper edge of the front air intake and the contours of the rear air dam, this interplay of the waistline and sill line giving the entire vehicle an even lower look and emphasising the dynamic wedge shape of the body.

Through its roofline dropping down consistently towards the rear and finally merging into the air spoiler lip, the BMW 5 Series Gran Turismo conveys a typical coupé feature to the style and body of a four-door saloon. The innovative character of the car's design is indeed a clear visual expression of its supreme versatility. And considering the sporting look of the car from outside, the large and truly generous interior of the BMW 5 Series Gran Turismo is even more impressive.

The BMW 5 Series Gran Turismo comes both front and rear with doors boasting frameless side windows, thus carrying over this feature of a particularly sporting car into a four-door BMW for the first time.

Through their size and flared design alone, the wheel arches symbolise the sporting potential of the BMW 5 Series Gran Turismo.

A further feature again reminiscent of particularly sporting cars is the low mass resting on the front wheels, where the side panels are particularly low, stretched and long. This effect is further enhanced by the horizontal configuration of the individual body sections created by the side-line, the joint and the contour line on the engine compartment.



### **New interpretation of the “Hofmeister kick”.**

The side window graphics proudly bear out the new interpretation of yet another characteristic BMW feature: On the BMW 5 Series Gran Turismo the upper window surround and the shaft cover on the rear side window are made out of one and the same element. This three-dimensional shape gives the frame around the “Hofmeister kick” a particularly sophisticated and dynamic look borne out in new style on the BMW 5 Series Gran Turismo as a new interpretation of this traditional “kick” so typical of BMW design. Here the inner radius of the “Hofmeister kick” is particularly large, the outer radius is unusually tight, creating an exciting counter-swing to the roofline tapering out gently at this point to the rear.

### **Powerful rear end with all the style of a classic Gran Turismo.**

In its design, the rear end again offers a particularly clear impression of the exceptional features which come with this new concept. The two outer rooflines as well as the shoulder lines, to mention perhaps the most conspicuous example, come together in the spoiler lip on the rear lid, giving the rear end in its fastback style a truly compact appearance.

Overall, the entire rear view of the BMW 5 Series Gran Turismo is subdivided by horizontal lines emphasising the sheer width and the powerful stance of the car on the road. At the same time this creates a highly attractive blend of convex and concave surfaces, further sporting excitement being provided by the negatively inclined surface above the chrome band between the rear light clusters proudly bearing the BMW logo.

The rear section reaches its full width around the wheel arches where the distinctive light contour line on the lower part of the bumper adds a further highlight.

### **Characteristic rear light design: LED light units with homogenous light effects.**

The L-shape of the rear light clusters so typical of a BMW has been re-interpreted on the BMW 5 Series Gran Turismo, the rows of lights following a truly dynamic sweep. The rear light clusters extend far into the side panels, bringing out the full width of the BMW Gran Turismo also in the car’s night design. Rows of lights fed by LED units create a homogenous illuminated look.

The brake lights and the direction indicators are also made up of LED light units positioned behind the rows of lights and shining even more brilliantly once activated to create a particularly intense, full-depth effect.

The characteristic look of the rows of lights with their harmonious, consistent illumination is a further unmistakable sign of BMW design ensuring a high recall value in road traffic.

The rear light clusters are connected to one another by a band of chrome continuing from the waistline at the side all the way into the line between the rear lights, thus again emphasising the sheer width of the rear end.

### **Interior design underlining the generous feeling of space.**

Generous dimensions and lots of freedom for all occupants are the characteristic features of the interior in the BMW 5 Series Gran Turismo.

This unique feeling of space is further enhanced by the interior shapes and the overall interior design of the car, the colour scheme and the choice of materials. The horizontal breakdown of the dashboard and the door panels as well as the general flow of surfaces further enhance this strong impression. The large side windows, finally, strongly accentuate the bright and generous ambience within the car together with the optional panorama glass roof previously only available in the BMW 5 Series Touring and the BMW X models.

As an option the BMW 5 Series Gran Turismo comes with two single comfort seats at the rear. On this configuration available as an alternative to the three-piece rear-seat bench featured as standard a centre console separates the two single seats, accommodating cupholders and a storage box as well as other facilities.

### **Optimum visibility and comfortable entry thanks to the slightly elevated seating position.**

On the front seats both the driver and passenger benefit from the slightly elevated seating position, this so-called Semi-Command position offering an optimised overview of traffic conditions and the area around the car. In addition, the configuration specially developed for the BMW 5 Series Gran Turismo allows comfortable and very ergonomic access to both the front and rear seats alike.

In the design and layout of the cockpit the structure of horizontally arranged, cascade-like, layered surface areas in different materials and colours strongly emphasises the width of the car. The displays and control elements are clearly separated from one another and are grouped according to their specific functions. Information and control units relevant to the driver are on the side of the cockpit actually facing the driver, while all displays, controls and switches serving to operate comfort functions are in the middle of the dashboard.

The control units on the multifunction steering wheel follow the same logic, again offering the driver maximum safety in controlling the car.

Through its overall design, the instrument panel interacts with the Semi-Command seats to provide a clear view from above on the control units for the lights and the start/stop button on the centre level of the dashboard tilted at a strong angle to the front. The horizontal orientation of the entire cockpit additionally emphasises the generous character of the interior.

**Instrument cluster with colour display in Black Panel technology.**

The instrument cluster in the BMW 5 Series Gran Turismo is made up of a high-resolution colour display in Black Panel technology presenting four circular instruments in the traditional style of a sports car as well as status and function displays, navigation readings, information from the Check/Control unit, feedback from the control buttons and the Service Interval Indicator relevant to the driver.

Featured from the start as standard in the BMW 5 Series Gran Turismo, Black Panel technology ensures particularly precise and, at the same time, sophisticated presentation of all important information.

In conjunction with the optional navigation system Professional, the instrument cluster comes with an even wider range of individual functions. When not in use, the display forms a homogeneous, black surface, the numbers on the dials being generated electronically and thus not becoming visible on the display, like all the other symbols, until activated.

The Control Display for the iDrive control system on the same level as the instrument cluster in typical BMW style is integrated in the middle as a free-standing element in the dashboard. Together with the central air vent, a storage box and the centre console with the control units for the audio and climate functions also in Black Panel technology, the Control Display forms a vertical axis from top to bottom.

To further enhance their particular look and function, the Control Display and the control units on the centre console come in galvanised metal surrounds.

### **Flowing surfaces in the door panels accentuating the length of the interior.**

The trim bar stretching together with a metal band in a powerful sweep over the entire width of the dashboard continues into the door panels. The impression of a fully enclosed area cocooning all of the car's occupants created in this way is further enhanced by the harmonious design of the panels on the front and rear doors in terms of their shape and colour scheme.

Interplay of ascending and descending lines and contours throughout the entire length of the interior creates a homogeneous look establishing a clear optical connection between the front and rear seats. All lines and the surfaces finished in top-quality materials extend all the way back to the rear seats, giving the interior its truly comfortable and spacious character.

At the same time the dynamic flow of lines not even interrupted by the B-pillars further accentuates the length of the interior so crucial to the generous space available.

A closer look reveals the subtle play of surfaces with individual elements changing not only in shape, but also in function. The centre section of the door panels, for example, is strongly contoured around the front seats and even offers a footrest function. Then, moving back to the rear, these contours come out even more strongly and the entire area turns to the inside, the concave surface created in this way ultimately leading back to the armrests on the rear seats.

In the dark the generous feeling of space within the interior is further accentuated by the ambient light effect, bands of light integrated in the dashboard beneath the trim bar generating indirect illumination in a warm shade of orange.

Light bands are also placed beneath the trim bar around the door panels, discreetly illuminating the armrests.

As an option this ambient light effect may be further enhanced by illuminated entry bars, light bands in the centre console at the front and behind the vertical trim bars at the rear, as well as further sources of light in the area of the centre armrest, the door pockets and on the backs of the front-seat backrests.

### **Clear concept of materials and colours within the interior.**

The concept of materials and colours within the interior enhances the impression of personal luxury inside the passenger compartment as well as the interplay of surfaces and lines. All surfaces within the interior come in top-quality

materials, the grained upper surface on the dashboard in its sophisticated look being available in Black and Dark Dolomiti. Apart from classic Black, the other colours are Ivory White, Cinnamon Brown, Veneto Beige, and Everest Grey.

The range of seat colours and materials extends from regular cloth in Black through a combination of cloth and leather and Dakota Leather (standard in the BMW 550i Gran Turismo) all the way to Exclusive Nappa Leather.

All optional seat upholstery variants are available in various colours. The trim bars, in turn, come in silken-matt Satin Silver as well as four different versions of genuine wood over and above the standard finish. On the BMW 550i Gran Turismo genuine wood trim bars are standard from the start.

The paintwork is available with a choice of twelve colours including Damask Red Metallic developed exclusively for the BMW 5 Series Gran Turismo.

## 5. Drivetrain: Dynamism, Comfort and Efficiency of the Highest Standard.



- New generation of engines entering the market: straight-six with TwinPower Turbo, High Precision Injection and VALVETRONIC.
- Top-of-the-range V8 developing 300 kW/407 hp, extremely economical six-cylinder diesel delivering 180 kW/245 hp.
- Innovative eight-speed automatic transmission featured as standard.

Introducing the BMW 5 Series Gran Turismo, the world's most successful manufacturer of premium cars is setting the foundation for an entirely new segment in the market, at the same time proving unique competence in drivetrain development.

The new model is entering the market with a choice of two gasoline engines and one diesel power unit. In the process BMW's newly developed straight-six gasoline engine for the first time featuring turbocharger technology, High Precision Injection and variable VALVETRONIC valve management all together is making its world debut. Indeed, the intelligent combination of these three technologies gives this power unit the best and most direct response ever offered by a straight-six turbocharged engine from BMW.

The new BMW TwinPower Turbo develops 225 kW/306 hp at a speed of 5,800 rpm, maintaining its maximum torque of 400 Newton-metres/295 lb-ft over a wide speed range from 1,200–5,000 rpm and, in comparison with the BMW turbo engine already well-known in other model series, offering even greater fuel economy combined with optimised CO<sub>2</sub> management.

The top engine in the BMW 5 Series Gran Turismo is the 300 kW/407 hp V8 with TwinPower Turbo and High Precision Injection – again the most efficient engine in its class.

The diesel engine, finally, is a 3.0-litre straight-six of the latest generation featuring an all-aluminium crankcase as well as common-rail direct fuel injection with piezo-injectors and delivering maximum output of 180 kW/245 hp.

This outstanding power unit again clearly confirms the effects and benefits of BMW EfficientDynamics, giving the BMW 530d Gran Turismo average fuel consumption in the EU test cycle of just 6.5 litres/100 kilometres, equal to 43.5 mpg imp, and a CO<sub>2</sub> rating of 173 grams per kilometre.

All engines available in the BMW 5 Series Gran Turismo naturally comply with the EU5 emission standard. In addition, all the power units in the BMW 5 Series Gran Turismo come with the new eight-speed automatic transmission presented for the first time in the new BMW 760i with its twelve-cylinder engine.

Through its high efficiency and the innovative layout of gearsets, the eight-speed automatic transmission makes a fundamental contribution to the further enhancement of efficiency on all three engine variants.

**World debut: TwinPower Turbo, High Precision Injection and VALVETRONIC in a new straight-six gasoline engine.**

The history of BMW's modern turbo engines going back to the year 2006 is characterised by spectacular power and exemplary efficiency. And now BMW is opening up a new chapter in this history, the straight-six gasoline engine powering the BMW 535i Gran Turismo consistently continuing the process of optimising engine power while at the same time reducing both fuel consumption and CO<sub>2</sub> emissions on an engine of this calibre.

The 3.0-litre power unit, for example, is yet a further result of the BMW EfficientDynamics development strategy, offering a range of highlights in technology never seen before on any other engine – highlights created in the context of BMW EfficientDynamics and now ideally matched for optimum driving dynamics and economy all in one.

The new straight-six is the world's first engine to combine turbocharging, direct gasoline injection and fully variable VALVETRONIC valve management developed by BMW. The turbocharging process follows the twin-scroll principle already applied successfully by the BMW Group and now further enhanced consistently for use in a particularly powerful and sporting straight-six.

The combination of this turbocharger technology with High Precision Injection and VALVETRONIC exclusive to BMW exceeds even the response and efficiency of the BMW Twin Turbo power unit launched back in 2006.

**Response even better than before, fuel consumption even lower.**

VALVETRONIC has already proven its qualities in numerous BMW engines the world over as a particularly effective technology providing even greater efficiency. The big advantage of VALVETRONIC is the infinite control and adjustment of valve stroke on the intake valves, making the throttle butterfly used in former times superfluous. VALVETRONIC reduces throttle losses in the charge cycle process to an absolute minimum and optimises engine response since the air mass required to control the combustion process is masterminded in the engine itself and not outside the power unit with the usual "dead" volume. This ensures particularly efficient use of the energy contained in the fuel, developing a very muscular torque curve and giving the engine optimum response.

In particular, the better response of a VALVETRONIC engine results from the fact that underpressure under part load is only approximately 50 millibar, while on a conventional engine up to 800 millibar of underpressure has to be set off.

On the BMW 535i Gran Turismo the VALVETRONIC functions have been optimised again by a new adjuster complete with a fully integrated sensor serving above all to make the adjustment process even faster than before. Indeed, the inertia factor on the new adjuster is only one-tenth the figure on the former model, serving to further improve engine response.

Responding smoothly, directly and immediately to the gas pedal, the new straight-six is clearly the leader in its class also in this discipline. Maximum torque of 400 Newton-metres/295 lb-ft, for example, comes at just 1,200 rpm.

Apart from the optimised VALVETRONIC control unit, the newly developed turbocharger also contributes to this superiority, ensuring a particularly spontaneous build-up of power since the ducts of three cylinders at a time are separated from one another both in the exhaust manifold and the turbocharger.

In practice, this means particularly low exhaust gas counter-pressure at low engine speeds, the double ducts then enabling the flow of gas to build up greater dynamism in the exhaust manifold and powerfully drive the turbocharger blades even at low engine speeds. Twin-scroll technology thus combines the benefits of two turbochargers within one system. And now this principle adapted to the BMW straight-six with its high standard of technology marks the ongoing, consistent development of BMW's turbocharged engines.



### **High Precision Injection with new injector nozzles.**

The VALVETRONIC system is fully integrated in the cylinder head. This intelligent and extremely compact arrangement allows a direct combination with High Precision Injection with its injection nozzles placed in the middle between the valves and, therefore, in the immediate vicinity of the spark plug in the cylinder head.

High Precision Injection in the new six-cylinder delivers fuel through innovative multi-hole valves at an injection pressure increased once again in large areas all the way to 200 bar. This ensures extremely precise dosage of the fuel injected as well as a particularly clean combustion process. And last but not least in this context, the direct injection of fuel serves to cool the fuel/air mixture and increase the compression ratio to a higher level than in a turbocharged engine with manifold injection – an advantage contributing once again to the greater power of the straight-six.

Displacing 2,979 cc, the new power unit delivers maximum output of 225 kW/306 hp. It therefore offers all the torque and muscle of a significantly larger eight-cylinder, but comes with much lower weight and significantly lower fuel consumption and emissions. It is indeed far lighter than a comparably powerful eight-cylinder and remains even 4 kilos lighter than the straight-six turbocharged engine already well-established in the market.

The BMW 535i Gran Turismo accelerates from a standstill to 100 km/h in 6.3 seconds and reaches an electronically limited top speed of 250 km/h or 155 mph. The unusually good balance of performance and fuel consumption is clearly expressed by average fuel consumption in the combined EU cycle of just 8.9 litres/100 kilometres, equal to 31.7 mpg imp. And the CO<sub>2</sub> rating of the BMW 535i Gran Turismo is just 209 grams per kilometre.

The BMW 535i Gran Turismo, like the other two model variants, comes as standard with a wide range of BMW EfficientDynamics technology. Supplementing the excellent efficiency of the respective engine and the eight-speed automatic transmission, features such as Brake Energy Regeneration, on-demand management and operation of ancillary units including the electrical coolant pump, the electrical power assistance pump and the detachable a/c compressor, as well as consistent lightweight engineering, optimised aerodynamics including active management of air flaps, and tyres with reduced roll resistance, ensure optimum fuel economy and emission management at all times.

The power unit of the BMW 535i Gran Turismo is the first turbocharged engine to feature a map-controlled oil pump which, taking up less energy, makes a further contribution to motoring efficiency. Yet a further point is that the new straight-six power unit with turbocharger, High Precision Injection and VALVETRONIC, does not require sulphur-free fuel and may therefore be used without problems the world over. The final point is that the engine naturally fulfils both the EU5 emission standard in Europe and the ULEV II standard in the USA.

**Unique: eight-cylinder gasoline engine with TwinPower Turbo and High Precision Injection.**

The top engine in the BMW 5 Series Gran Turismo is the truly unique V8 with turbocharging and High Precision Injection. Displacing 4.4 litres, this eight-cylinder already to be admired in the BMW X6 xDrive50i and the BMW 750i now also offers its maximum output of 300 kW/407 hp in a speed range between 5,500 and 6,400 rpm in the BMW 5 Series Gran Turismo. Proudly bearing the name BMW TwinPower Turbo, the engine develops maximum torque of 600 Newton-metres/442 lb-ft all the way from 1,750 to 4,500 rpm.

As the world's only gasoline engine of its kind, this V8 comes with two turbochargers and catalytic converters in the V-section between the two rows of cylinders. The big advantage of this arrangement is compact dimensions with optimised cross-sections on the components involved in the charge cycle process, minimising pressure losses on both the intake and exhaust side.

The driver will experience this superiority through the spontaneous and direct response to every movement of the gas pedal ensured thanks to this configuration by the extremely short and flow-efficient ducts leading to the turbochargers.

The all-aluminium power unit of the BMW 550i Gran Turismo offers a truly incomparable, dynamic and, at the same time, comfortable rendition of the qualities typical of an eight-cylinder. It combines superior torque and muscle from low engine speeds with an impressive surge of continuous power all the way to top speed. Acceleration from a standstill to 100 km/h comes in just 5.5 seconds and ample power reserves are readily available at all times also at higher speeds. Top speed, finally, is limited electronically to 250 km/h or 155 mph.

**BMW TwinPower Turbo for a long and continuous flow of power.**

The power and performance of this unique V8 results primarily from the particular turbocharger concept exclusive to BMW. This unique construction principle with two turbochargers not positioned at the outside, but rather

directly in the V-section between the two rows of cylinders, each supplying four cylinders with compressed air, guarantees unparalleled spontaneity in taking up the driver's commands on the gas pedal. The "turbo gap" so typical of conventional turbocharged engines – the time elapsing until the turbocharger starts to develop its power boost – is simply not there any more.

A further significant point is that the engine revs up full of power and muscle, maintaining its very high torque consistently throughout an unusually broad range of engine speed. In its performance characteristics it therefore resembles a significantly larger normal-aspiration engine while at the same time it is much lighter, also thanks to its all-aluminium crankcase.

Not just the weight, but also the fuel consumption of this new V8 remains at a level unusually low for an engine of this class. A significant factor contributing to superior fuel economy is infinite double-VANOS camshaft adjustment so typical of a BMW engine, also enabling the V8 to deliver an exceptionally high level of torque right from the start at low engine speeds.

A further key function in providing maximum fuel efficiency is High Precision Injection. This second generation of direct gasoline injection incorporates piezo-injectors positioned in the cylinder head directly next to the spark plug and delivering fuel into the combustion chambers at a pressure of up to 200 bar.

Like on the new six-cylinder, this technical principle ensures precise dosage in the supply of fuel, helping to give the BMW 550i Gran Turismo average fuel consumption in the EU test cycle of 11.2 litres/100 kilometres (equal to 25.2 mpg imp) and limit CO<sub>2</sub> emissions to 263 grams per kilometre. Again, this fulfils both the US ULEV II emission standard and the EU5 classification in Europe.

**Ultra-modern diesel power: straight-six with aluminium crankcase and high-pressure fuel injection through piezo-injectors.**

The straight-six diesel featured in the BMW 530d Gran Turismo again represents the state of the art in BMW engine development. Indeed, this 3.0-litre diesel gives BMW even greater worldwide leadership in the development of diesel engine technology, coming complete with an all-aluminium crankcase.

The significantly upgraded turbocharger system with variable intake geometry ensures a dynamic and, at the same time, harmonious flow of power under all conditions. The supply of fuel, finally, is provided by the latest generation of common-rail direct injection.

This power unit presented with these features for the first time in the new BMW 730d stands out from its predecessor by even greater power and performance on lower fuel consumption and emissions. Displacing 3.0 litres, the engine develops maximum output of 180 kW/245 hp at a speed of 4,000 rpm. Peak torque of 540 Newton-metres/398 lb-ft, in turn, comes at just 1,750 rpm.

Yet a further most substantial benefit offered by this unique diesel is its unparalleled all-round economy, with average fuel consumption and CO<sub>2</sub> emissions of the BMW 530d Gran Turismo remaining far below the usual figures on a vehicle of this size and with this kind of power.

### **Optimised combustion reducing raw emissions.**

The newly developed crankcase of BMW's six-cylinder diesel is made of an ultra-strong aluminium-silicon alloy. The crankshaft made of high-strength steel is now even stiffer than before in its new layout and configuration. The fuel injectors positioned in the middle, together with the vertically arranged valves, ensure a smooth and consistent combustion process and again serve to reduce raw emissions.

Fuel is supplied by proven third-generation common-rail direct injection using enhanced piezo-injectors and now operating at a maximum pressure at 1,800 bar.

A final point is that the high-pressure pump, the supply and injection lines, the rail pressure sensor and the pressure control valve on the new engine have all been upgraded and improved accordingly over the former generation.

Used for the first time on a six-cylinder diesel engine, the ceramic spark plugs optimise the engine's starting qualities in several respects. They also serve to reduce both fuel consumption and emissions and enhance motoring comfort while warming up by significantly improving the engine's acoustics and vibration behaviour.

### **Turbocharger with adjustable turbine geometry and optimised control.**

The exhaust gas turbocharger upgraded to a new standard over the previous unit likewise helps to optimise the qualities and efficiency of the new six-cylinder diesel. Activated as a function of load conditions and power requirements, the adjustment of turbine geometry is now controlled with even greater precision. Modified compressor and turbine rotors give the turbocharger even better thermodynamic qualities, while an electrical adjuster motor adjusts the turbine

blades with maximum precision and minimum delay in response to current requirements. The result is spontaneous and direct engine response at low revs as well as supreme power and performance under full load.

The newly conceived exhaust gas recirculation system ensures an even better and more consistent distribution of exhaust gas and fresh air in the cylinders. The stainless-steel exhaust gas cooler optimised for maximum power and performance comes complete with a bypass flap reducing harmful emissions while the engine is warming up.

The amount of exhaust gas fed in during the process as well as the temperature of the exhaust gas may be determined with maximum precision, depending on the operating point and the temperature of the engine. This ensures minimisation of hydrocarbon, carbon monoxide and nitric oxide emissions right from the start within the engine and guarantees superior running smoothness and refinement at all times.

### **Weight down, agility up, emissions reduced.**

Overall weight of the new six-cylinder diesel is just 185 kg or 408 lb. This reduction of weight enhances not only the efficiency of the BMW 530d Gran Turismo, but also the car's agility, with acceleration from a standstill to 100 km/h in just 6.9 seconds. Top speed, in turn, is 240 km/h or 149 mph.

This sporting performance comes with average fuel consumption in the EU cycle of just 6.5 litres/100 kilometres, equal to 43.5 mpg imp, and CO<sub>2</sub> emissions are a mere 173 grams per kilometre.

With its compact dimensions, low weight, reduced height and the chain drive moved to the back of the engine, the new diesel also helps to meet future requirements in pedestrian safety. As a further point the risk of injury may be reduced by the intake silencer deformable also in its height and therefore giving way exactly when required beneath the likewise new cylinder head cover made of a special synthetic material.

### **Diesel particulates filter and catalytic converter in one unit.**

The alternator, steering assistance pump and a/c compressor are all arranged on the left-hand side of the engine, leaving the right-hand side open for the diesel particulates filter, the oxidation catalyst and the turbocharger system.

These exhaust gas cleaning units are all housed in one joint unit positioned directly behind the engine.

Thanks to the technical innovations boasted on the new six-cylinder power unit, the engine significantly outperforms even the EU5 emission standard, with emission management reducing not only diesel particulates, but also hydrocarbons and carbon monoxide most effectively.

The diesel particulates filter operates maintenance-free and does not require any additives. The regeneration phases required at regular intervals are initiated by a subsequent injection process activated by engine management.

### **Innovation with eight gears: the new automatic transmission.**

The innovative character of the BMW 5 Series Gran Turismo is borne out clearly not only by the range of engines, but also by the power transmission. All model variants come as standard with the eight-speed automatic transmission so far featured exclusively in the twelve-cylinder BMW 760i luxury performance saloon, offering an unprecedented level of gearshift comfort, sportiness, and efficiency.

The transmission makes a significantly greater contribution once again to the reduction of fuel consumption and emissions compared with the six-speed automatic transmission used by BMW so far. The new eight-speed automatic transmission is therefore ideally suited to further enhance and highlight the dynamic driving qualities, the superior grand touring comfort and the progressive overall concept of the BMW 5 Series Gran Turismo.

The new eight-speed automatic transmission excels through the innovative layout of its gearsets, allowing the use of additional gears and a larger increment of gear ratios over the former six-speed automatic without any negative effects on the size, weight and internal efficiency of the transmission.

The eight forward gears and the reverse gear are provided by four simple gearsets and five shift units. The innovative arrangement of these components to be seen for the first time worldwide in an eight-cylinder automatic transmission offers the big advantage that only two of the total of five clutches are required to run along open in each gear, thus reducing frictional losses under all driving conditions to an absolute minimum.

Apart from the broader range of gears and the high standard of efficiency, this factor likewise contributes to the supreme, highly efficient qualities of the new transmission. The intelligent concept of this new eight-speed automatic therefore provides an ideal match for the BMW EfficientDynamics development strategy.

**Triple progress with two additional gears: gearshift dynamics up, comfort up, efficiency up.**

With the transmission offering an even wider range of increments, the driver is able to use above all the highest gear at far lower engine speeds. And thanks to the use of eight gears, the gaps between the individual gears are smaller than before despite the broader range of increments.

Obviously, this enhances the sporting character of the transmission and, therefore, the dynamic philosophy of the vehicle again so typical of BMW. While accelerating, for example, the harmonious flow of gears into one another ensures a particularly consistent and smooth build-up of speed on the road.

The smaller differences between the transmission ratios likewise serve to enhance gearshift comfort, changing gears involving only a small change in engine speed.

With reaction and gearshift times even shorter than on the former six-speed automatic, the driver and passengers enjoy even greater motoring comfort and driving dynamics all in one. When shifting up or down one or two gears only one clutch has to be opened, direct determination of the right gear ensuring extremely short response and gearshift times also when shifting more than two gears.

Even when shifting down from eighth to second gear for spontaneous and powerful acceleration, the entire process is conducted as a direct gearshift requiring only one clutch to be opened. This configuration is indeed particularly beneficial to a supreme style of motoring in the BMW 5 Series Gran Turismo, allowing the driver to use the higher gears most suited for greater efficiency and smoothness more often than before, while benefitting from the car's maximum power and performance spontaneously and without the slightest delay.

The only slight increase in the number of components compared with the former six-speed automatic gives the new eight-speed automatic transmission an unusually high standard of internal efficiency. Gear mesh efficiency, as it is called, exceeds the level of 98 per cent in each gear.

Sixth gear serves as a direct gear and therefore avoids frictional losses altogether.

The low weight of the new transmission almost exactly the same as on the former six-speed automatic again helps to increase the overall efficiency of the car. In all, minimum converter slip, the high degree of internal efficiency,

low frictional value losses with only two clutches open at a time, the longer transmission ratios on the higher gears and transmission management enabling the driver to drive at lower speeds more often, all contribute to a significant improvement of fuel economy over the former six-speed automatic.



## 6. Chassis and Suspension: Your Personal Set-Up.



- Maximum comfort, dynamism and precision ensured by double track control arm front axle and Integral-V rear axle.
- Dynamic Drive Control and rear axle air suspension featured as standard.
- Adaptive Drive and Integral Active Steering as an option.

The fascinating experience of driving the BMW 5 Series Gran Turismo expresses itself in many different ways. First and foremost, the new car combines the driving dynamics so typical of BMW with the outstanding touring comfort of a Gran Turismo regardless of your current speed and the load the car is carrying, offering unparalleled excellence in all cases. This is ensured by suspension technology successfully providing well-being, supremacy and safety of the highest calibre under all driving conditions – qualities made possible, inter alia, by the modern construction features of the suspension as well as its innovative control systems.

The double track control arm front axle introduced for the first time on the new BMW 7 Series gives the BMW 5 Series Gran Turismo exactly the right balance of wheel guidance and damping duly separated from one another. Remaining entirely unaffected by lateral forces, the dampers respond smoothly and flexibly to all kinds of bumps on the road, absorbing adverse forces and minimising the influence of any such forces on the steering.

At the same time the front axle kinematics ensure optimum adjustment of wheel camber to the road, the all-aluminium front axle thus optimising road and tyre contact in the interest of even higher lateral acceleration. And since soft track control bearings are used to connect the axle to the subframe, the steering transmission ratio is even more direct than would otherwise be possible, significantly optimising the directional stability of the car also at high speeds and enhancing driving stability when applying the brakes in a bend.

The Integral-V rear axle developed and patented by BMW is also made of aluminium and has been specifically optimised for the BMW 5 Series Gran Turismo. Dynamic and drive forces acting on the suspension are taken up by the wheel mount, the rear axle subframe, the swing arm and three track control arms on each side.

The innovative elastokinematic swing arm mounts serve to provide suspension qualities formerly incompatible with one another, now enhancing both driving dynamics and motoring comfort. Longitudinal forces, for example, are set off to the rear by the straight-line spring action of the swing arm, effectively separating radial and axial forces acting on the swing arm rubber mounts.

Irrespective of load conditions, the spring position on the wheel mounts ensures a consistently low pre-load on the rubber mounts on the subframe – and a further advantage of this effective separation of road conditions and drive forces is the first-class acoustic and vibration comfort offered in this way.

The BMW 5 Series Gran Turismo comes as standard with air suspension at the rear optimised once again over the system featured on the BMW 5 Series Touring and serving to maintain consistent ride height under all driving and load conditions.

The air suspension immediately considers even the slightest change in the load the car is carrying, setting off different load conditions individually on each wheel and thus minimising the need for subsequent control action in response to spring movement caused by bumpy surfaces and body roll in bends. In the event of rear tyre damage, finally, the air suspension takes the load off the wheel involved and sets off the difference in ride height caused by the loss of pressure.

The BMW 550i Gran Turismo comes as standard on 19-inch light-alloy wheels. All other variants of the BMW 5 Series Gran Turismo are equipped as standard with 18-inch light-alloy wheels. Likewise standard, 245/45 R 19 runflat safety tyres at the front and 245/40 R 19 runflat tyres at the rear of the top model and, respectively, 245/50 R 18 runflat tyres front and rear on the BMW 535i Gran Turismo and the BMW 530d Gran Turismo enable the driver to continue after a puncture, even if the tyre is completely empty, covering up to 250 kilometres or 155 miles in the process. A further significant point is that the Tyre Defect Indicator permanently monitors tyre pressure, warning the driver as soon as pressure drops by more 20 per cent.

### **Integral Active Steering controlling the steering angle on the front and rear wheels.**

Hydraulic rack-and-pinion steering with Servotronic provided by an on-demand steering assistance pump ensures the usual precision of a BMW when entering bends and in maintaining superior straight-ahead directional stability in the BMW 5 Series Gran Turismo. When driving in a straight line the volume

flow from the pump is reduced electrically, cutting back the power uptake accordingly. The significant reduction of energy consumption ensured in this way makes an additional contribution to the car's high standard of efficiency.

As an option the BMW 5 Series Gran Turismo may be equipped with BMW's highly innovative Integral Active Steering. As a function of road speed, this cutting-edge steering technology influences steering forces through the Servotronic function as well as the steering angle via the additional transmission unit acting through Active Steering on the front axle.

Integral Active Steering also controls the steering angle on the rear wheels through a concentrically arranged motor with spindle drive acting on the rear axle.

Integral Active Steering varies the steering angle both front and rear through an electric motor masterminded by a control unit taking data on wheel speed, movements of the steering wheel, the yaw rate and lateral acceleration delivered by sensors into account, and thus ensuring optimum steering behaviour under all conditions.

The maximum steering angle on the rear wheels is 2.50. At low speeds the rear wheels turn against the steering angle on the front wheels to give the BMW 5 Series Gran Turismo a significantly higher standard of agility in every respect. The turning circle is significantly reduced and the reduction of steering forces provides a noticeable increase in motoring comfort.

At higher speeds, on the other hand, Integral Active Steering gives the vehicle truly outstanding motoring comfort and a superior response when changing lanes and in bends, with the rear wheels turning in the same direction as the front wheels.

In abrupt steering manoeuvres the BMW 5 Series Gran Turismo again follows the driver's steering commands with utmost precision and supremacy.

Active Steering intervening at the same time on both axles also optimises steering response and reduces the movements of the steering wheel required. A further effect of rear-wheel steering is particularly significant at the rear, any change in direction under dynamic driving conditions building up lateral acceleration without a corresponding increase in the yaw rate. The separation of these two factors gives the passengers particularly at the rear extra comfort and an even smoother ride.

The combination of Active Steering on the front axle and rear axle steering unique the world over benefits the car's comfort and agility all in one. And in addition to the extra stability ensured in this way in fast directional manoeuvres, Active Steering makes braking manoeuvres even smoother and more superior.

Combining Active Steering with the DSC Dynamic Stability Control sensors, the system prevents the car from swerving out of control when braking on different surfaces left and right (modal split) by intervening specifically in the steering as required.

### **Superior handling ensured by high-performance brakes and DSC.**

The compound brake system in the BMW 5 Series Gran Turismo ensures excellent stopping power under all conditions, bringing the car to a safe halt in a short distance even from high speeds. Inner-vented brake discs and swing callipers optimised for maximum efficiency on the front and rear wheels ensure extreme resistance to fading and maximum brake comfort.

The brake discs are special lightweight units with the friction ring riveted on to the aluminium cover. This principle patented by BMW and now also used by other car makers, together with the aluminium callipers in frame design on the front axle, significantly reduces unsprung masses and prevents any deformation of the discs under high temperatures even when subject to extremely high loads acting on the brake system.

The brake system is supported by DSC Dynamic Stability Control with its wide range of individual functions. Over and above the stabilising effect provided by DSC, the system offers further functions promoting both safe and dynamic driving qualities. These include ABS anti-lock brakes, ASC Automatic Stability Control, Trailer Stability Control, CBC Cornering Brake Control as well as DBC Dynamic Brake Control automatically maximising brake pressure on both axles as soon as this function realises that the driver wishes to slow down as quickly as possible.

Under extremely high brake temperatures an appropriate increase in brake pressure prevents any loss of brake power commonly referred to as fading, thus giving the driver almost the same level of consistent brake power and behaviour at all times.

Regular Dry Braking optimises brake performance in the wet, while the Brake Standby function builds up moderate brake pressure as soon as the driver abruptly takes his foot off the gas pedal, ensuring spontaneous brake action whenever required. The Start-Off Assistant helps the driver set off smoothly on

an uphill gradient by preventing the car for a defined period from rolling backwards. And last but not least, cruise control with an integrated brake function uses the automatic build-up of brake pressure via DSC to provide comfortable and very pleasant speed control at all times.

### **Electromechanical parking brake and Auto-Hold function.**

The BMW 5 Series Gran Turismo comes with a parking brake operated either electromechanically or hydraulically, depending on current conditions, in the interest of enhanced safety and motoring comfort.

With the engine running, the parking brake effect is generated by active build-up of pressure in the hydraulic system controlled by DSC Dynamic Stability Control. Then, as soon as the driver switches off the engine, the parking brake effect is generated electromechanically.

The parking brake is activated by simply pulling the appropriate knob on the centre console. To release the parking brake, in turn, all the driver has to do is press the same knob while pressing down the brake pedal at the same time. This configuration rules out the risk of the driver inadvertently releasing the parking brake when the ignition is switched off.

While driving the driver is able to automatically build up an emergency braking function by pulling the parking brake knob just a bit longer. The brake effect itself is generated by actively building up hydraulic pressure on all four wheels, the degree of stopping power being masterminded by the DSC control unit, taking the ABS function into account. Naturally, the brake lights are also activated in the process.

The electromechanical parking brake comes complete with an Auto-Hold function. This combination quite unique in the market serves in particular to enhance motoring comfort in stop-&-go traffic. As soon as the car comes to a standstill, it is automatically held in position like on a gradient until the driver presses the gas pedal again, without requiring him to keep the brake pedal down all the time while the car is held in position.

The Auto-Hold function is activated and deactivated by a separate knob on the centre console.

**Featured as standard: Dynamic Drive Control for individual set-up according to current requirements.**

The BMW 5 Series Gran Turismo comes as standard with Dynamic Drive Control ensuring individual set-up of the suspension according to current requirements and preferences. This high-tech system varies the progressive curve of the gas pedal, engine response, the map control line supporting the steering (steering assistance), the shift dynamics of the eight-speed automatic transmission, and the response thresholds of DSC Dynamic Stability Control.

Dynamic Drive Control is operated by a button on the centre console directly next to the gear selector lever. Pressing this toggle switch, the driver is able to choose among the NORMAL, SPORT and SPORT+ modes, in each case activating a pre-configured and carefully harmonised set-up based on the appropriate settings of the drivetrain and suspension components.

On the road the differences between the individual modes are clearly noticeable, the SPORT mode, for example, providing far more direct steering behaviour and ensuring an even more spontaneous and direct response to the gas pedal.

A further significant point is that Dynamic Drive Control allows individual configurations in the SPORT mode. In principle, this mode gives both the drivetrain and suspension functions a sporting set-up. Through the iDrive control system the driver is also able to influence one of these two factors, returning in this way to the usual configuration in the NORMAL mode. This allows the driver to enjoy, say, a more sporting set-up of the drivetrain components while deliberately not choosing a harder set-up of the dampers due to bad road conditions.

Another button directly in front of the mode toggle switch serves to choose the appropriate DSC settings. Pressing this button, the driver is able to activate a special traction mode facilitating, say, the process of setting off on snow.

This is done through DTC Dynamic Traction Control as a special mode of DSC, which raises the response thresholds of the driving stability system.

The DTC function of Driving Stability Control is also activated in the SPORT+ mode, serving in this case to provide slight slip on the drive wheels for taking a bend in a controlled drift or powerslide.

Keeping his finger on this additional button somewhat longer, the driver is able to deactivate DSC completely. In this DSC-Off mode an electronic locking function acts on the rear axle differential, enhancing a sporting and ambitious style of motoring, for example when accelerating out of a bend or hairpin. To

optimise traction under such conditions a drive wheel spinning when accelerating out of a tight bend is slowed down precisely as required by the brakes, allowing the opposite wheel on the same axle to maintain the drive power and traction required.

**Special option for greater dynamics and additional comfort:  
Adaptive Drive.**

As an option the BMW 5 Series Gran Turismo is available with Adaptive Drive combining the electronically controlled dampers and the car's active anti-roll stability system. The innovative dampers used in this case adjust both to road conditions and the driver's style of motoring in order to prevent any undesired movement of the vehicle caused by bumps on the road or a high level of lateral acceleration.

The driver is able to adjust the damper control map via Dynamic Drive Control, choosing from a comfortable, a normal and a sporting set-up. This is also why Dynamic Drive Control interacting with Adaptive Drive also comes with the COMFORT mode.

BMW is the world's first car maker to use a damping system with infinite and independent adjustment of the inbound and rebound strokes, with a unique combination of a firm suspension set-up and, at the same time, a comfortable response to bumps and unsmooth surfaces on the road.

With these dampers, the up-and-down movement of each wheel is determined by sensors and reported to the central control unit, taking these data and signals on the car's ride height to determine any movement of the body. Making allowance also for road speed and the damper setting chosen by the driver, the system then calculates the damper force required on each wheel in order to set off body movements.

The data used for this purpose is fed to the dampers in intervals of just 2.5 milliseconds, with actual and target settings being established individually on each wheel by controlling the inbound and rebound stroke valves in the dampers.

Active anti-roll stabilisation likewise included in the optional Adaptive Drive function reduces body sway in fast bends and under a sudden change of direction. Taking current driving conditions into account, sensors determine the side angle of the body and swivel motors in the anti-roll bars front and rear quickly and precisely counteract the forces recorded, significantly improving the car's

steering and load change behaviour in the process. A further advantage is that side roll is largely eliminated also with bumps on just one side of the road, again significantly increasing the standard of driving comfort.

**Intelligent control of driving dynamics:**

**Integrated Chassis Management and FlexRay technology.**

Perfect operation and interaction of the suspension systems is ensured by Integrated Chassis Management (ICM) networking the various functions with one another. This high-performance electronic management analysing the car's behaviour by evaluating a large number of sensor signals serves to coordinate drivetrain and suspension functions within fractions of a second in the interest of maximum stability under all conditions.

Even under suddenly changing conditions – for example on changing road surfaces, with spontaneous steering manoeuvres, abrupt acceleration or application of the brakes – ICM intervenes immediately by precisely adjusting the DSC actuators and, where fitted, acting on the Integral Active Steering and Adaptive Drive.

This specific type of network connecting the suspension control systems and the drivetrain is likewise unique the world over. To ensure ultra-fast and reliable coordination of all systems, BMW uses FlexRay high-speed data transmission. This sophisticated system developed to production standard by a specialist development consortium under the guidance of BMW excels through data transfer capacity never seen before, with a transmission rate 20 times higher than that of a conventional transmission system.

BMW is the first car maker worldwide to use FlexRay technology in its production cars.



## 7. Body and Safety: Variable Space, Consistent Occupant Safety.



- New: aluminium doors with frameless windows.
- Extra-strong body structure and wide range of pedestrian safety features.
- Two-piece tailgate with unique construction and function qualities.

The innovative and truly versatile character of the BMW 5 Series Gran Turismo is attributable in particular to a number of unique body features. The concept ideas clearly expressed from the start in the design of the car are converted into reality in the construction process, ensuring all the functionality and premium quality so typical of BMW. Innovative, technically very demanding solutions in body construction ensure a unique combination of sporting elegance, personal luxury and modern variability of the highest standard, setting yet another important foundation for the new driving experience in a BMW.

Through its intelligently conceived body structure combined with numerous safety components, the BMW 5 Series Gran Turismo offers a perfectly coordinated all-round system for optimising occupant safety. Indeed, the BMW 5 Series Gran Turismo is designed from the start to reduce the possible consequences of all kinds of accidents to an absolute minimum for both the driver and his passengers, thus fulfilling all the requirements for excellent results in all crash tests relevant the world over.

Appropriate use of high-strength and ultra-high-strength steel as well as a large number of aluminium components serves to combine superior body strength with relatively low weight. At the same time the excellent torsional stiffness of the body, just like the optimisation of weight, makes an additional contribution to the superior driving dynamics of the BMW 5 Series Gran Turismo.

The quality of lightweight construction ensuring supreme torsional stiffness of the car in relation to its footprint on the road and the weight of the vehicle likewise ranks right at the top.

### **Innovative in both design and construction: the aluminium doors.**

Apart from the engine compartment lid and the front spring supports on the body, the doors on the BMW 5 Series Gran Turismo are also made of aluminium. At the same time they are an outstanding design and construction

feature, the BMW 5 Series Gran Turismo being BMW's first four-door model to boast doors with frameless side windows – and this is also the first large-scale production model from BMW to feature doors in aluminium shell construction.

The use of aluminium doors alone, replacing conventional steel doors, reduces the overall weight of the BMW 5 Series Gran Turismo by no less than 28 kg or 62 lb. A further advantage is that the frameless side windows let in even more light to brighten up the interior.

Despite this particular feature, the BMW 5 Series Gran Turismo, as yet another innovation in automotive engineering and car production, is available with an electrically operated sunblind on each of the side windows at the rear.

On account of its particular deformation characteristics, aluminium demands a much more intricate production process than steel. But the development and use of a new structural concept serves nevertheless to retain the proven shell structure of the doors, offering the demanding design features so typical of BMW also in the use of aluminium.

**Unique: two-piece tailgate with highly practical, independently operating opening and closing functions.**

The two-piece tailgate featured for the first time on a BMW combines exceptional comfort with utmost variability in loading the car. The tailgate is made up of a small opening beneath the rear window and a large opening like on BMW's X-models, both opening independently of one another.

As an option, the large tailgate section may also be closed automatically at the touch of a button.

A central pressure-cast aluminium frame ensures supreme strength and stiffness and is indeed the largest pressure-cast component ever to be used in a car with this kind of precision and accurate operation. These features alone make the two-piece tailgate of the BMW 5 Series Gran Turismo quite unique versus all the car's competitors.

Both the small and the large tailgate opening come with bracket hinges turning to the outside, and the large opening also comes with its own Soft Close Automatic closing mechanism.

The grab handle connecting both sections has two control buttons to open or close the small part of the tailgate, and as a further benefit the tailgate may be unlocked both by pressing a button on the key to the car and from the interior. Grab recesses are integrated inside the respective tailgate section to close the two units as required.

**Panorama glass roof: more light, more strength, more headroom.**

The panorama glass roof available as an option on the BMW 5 Series Gran Turismo provides an even brighter and, at the same time, more spacious ambience within the interior. Compared with the panorama glass roof already featured on the BMW 5 Series Touring, the new glass roof has been further optimised in its structure and function. The glass area measures 116 centimetres or 45.6" in length and 94.2 centimetres or 37.1" in width, with an opening area of 44 centimetres or 17.3". In all, this glass area makes up approximately 55 per cent of the entire outer skin of the roof.

With the rear glass cover forming part of the body structure firmly bolted on to the body at the back, the stiffness and stability of the entire vehicle is enhanced accordingly, avoiding even the slightest loss of stiffness versus a car with a conventional sliding/vent roof.

A further special feature is the harmonious integration of the glass panel into the outer skin of the car achieved by the sweeping contour at the front of the glass roof following the front edge of the entire roof structure.

The panorama glass roof is opened and closed by two electrical drive motors. The control unit required for this purpose is integrated in the roof lining of the car, together with the buttons for the interior lights.

The interior sunblind is also operated electrically and is indeed the world's first side-guided sunblind in the automobile market able to keep out light altogether. Finished in the same look and surface structure as the roof lining, the inside of the sunblind merges harmoniously with the rest of the car's interior. And last but not least, space-saving integration of the sunblind in the roof lining serves to increase headroom at the rear.

**Optimum occupant safety on all seats.**

High-load-bearing structures, generous and exactly defined deformation zones as well as highly efficient restraint systems coordinated by high-performance electronic control set the foundation for the high standard of passive safety offered by the BMW 5 Series Gran Turismo. Forces acting on the car in a head-on collision are diverted along several load paths in the floorpan, on the

side frame, in the bulkhead and in the roof, subsequently being absorbed by the deformation zones and thus kept far away from the passenger cell. The load-bearing structures essential for this transmission of forces are made largely of multi-phase and heat-moulded steel.

Within the interior not only frontal and hip/thorax airbags play an essential role, but also curtain airbags both front and rear, all naturally coming as standard. Depending on the type of collision and its severity, integrated safety electronics mastermind the restraining effect and the time at which the airbags are activated. Among other things, this means that airbags not required are not activated in the first place, but are nevertheless still available for a possible secondary, follow-on collision.

The frontal airbags come with a two-stage gas generator and may be activated with varying intensity, depending on the severity of an accident.

All seats come with three-point inertia-reel seat belts. The restraint systems furthermore feature belt force limiters with an additional belt latch tensioning function on the front seats.

To prevent cervical spine injury in the event of a rear-end collision, the front seats are equipped as standard with crash-activated headrests. Masterminded by the car's safety electronics, this sophisticated system ensures that in the event of a collision the front end of the headrests move forward up to 60 millimetres or almost 2.4" and upward by up to 40 millimetres or nearly 1.6", reducing the distance between the occupant's head and the headrest before the occupant is pushed back by the forces acting on the vehicle.

The headrest thus provides an even greater stabilising and safety-enhancing function, reducing the risk of injury or over-stretching of the occupant's cervical spine.

Yet a further point is that the rear seats come as standard with ISOFIX child seat fastenings. All restraint systems are masterminded by central safety electronics and the safety steering column of the BMW 5 Series Gran Turismo comes with a load-dependent deformation unit as well as an extra-large thrust element protecting the driver additionally from collision forces coming from the engine compartment. And, last but certainly not least, to optimise passive pedestrian safety both the engine compartment lid and the side walls give in appropriately in the event of a collision.

**Just in case: emergency call signal with automatic determination of the car's location.**

As part of the optional BMW Assist telematics service, the BMW Connected-Drive Enhanced Emergency Call function provides rescue services with detailed information on the type of collision and the risk of injury before they even arrive at the scene of an accident. Clearly, this enables them to prepare appropriate medical care for the persons injured in good time.

The information transmitted to the BMW Call Center by the Enhanced Emergency Call function automatically determining the current whereabouts of the car specifies not only the car's exact location, but also the mobile phone number associated to the car, the chassis number, the type and colour of the vehicle, as well as data collected by sensors in the car providing information on the nature and intensity of the collision.

The system registers the activation or non-activation of all restraint units fitted in the car as well as seat occupancy and the status of the front seat belts. It is also able to determine head-on, rear-end, side-on or multiple collisions, distinguishing from one type of collision to another.

Indeed, the Enhanced Emergency Call function is even able to determine whether the car has rolled over, providing appropriate information in this case, too.

Apart from the data automatically sent out in this way, the system also enables the driver and/or front passenger to manually activate an emergency call and immediately contact the BMW Call Center.

To prevent collisions from behind, the BMW 5 Series Gran Turismo is also equipped with a warning system for drivers and other road users following from behind the vehicle. Specifically, this is an enhanced version of the Adaptive Brake Lights already introduced by BMW as the first car maker in the world. Whenever the driver presses down the brake pedal particularly hard with ABS intervening, other motorists following from behind are urged by the brake lights conspicuously flashing on and off to likewise apply the brakes as hard as they can. And if the driver is really braking all-out, even the hazard warning flashers are automatically activated once the car comes to a standstill.

**Optimum visibility: bi-xenon headlights and Adaptive Headlights with variable light distribution.**

The dual round headlights of the BMW 5 Series Gran Turismo so typical of the brand ensure excellent illumination of the road ahead in the dark and in poor weather conditions. For the first time the headlights come with LED-based corona rings which, on the regular headlights, form the positioning lights in the typical look of a light ring again so reminiscent of the brand.

Further features coming as standard are the foglamps and the light sensor which, as a function of ambient brightness, automatically activates the low-beam headlights when required.

Yet another standard feature is the rain sensor registering the intensity of precipitation and therefore automatically adjusting the speed of the screen-wipers. The optional High-Beam Assistant, in turn, provides additional comfort when driving at night, automatically switching the high-beam headlights on and off, depending on the distance from vehicles coming the other way or driving ahead of the car.

The BMW 5 Series Gran Turismo is available as an option with bi-xenon headlights in which case the LED units in the typical corona rings may be operated in one of two performance stages. Dimmed to approximately 10 per cent of their full output, they serve as positioning lights. Operating with full power, on the other hand, they provide the daytime light function in that typical BMW look.

Adaptive Headlights likewise available as an option ensure optimum illumination of the road ahead, following curves and winding stretches of road. The headlights swivel to the side in the same way as the steering, also following the yaw rate and the speed of the car.

The Bending Lights function is integrated in the headlights with an additional light beam switched on when taking a bend in order to illuminate the road in the direction the driver is taking.

Adaptive headlight range control also takes the vertical contours of the road into account, the light beam being appropriately lowered or raised when driving, say, across crests, through tunnels or up and down steep ramps, thus ensuring optimum illumination of the road without dazzling oncoming traffic.

Yet a further highlight of the Adaptive Headlights is variable light distribution ensuring optimum illumination of the road ahead also on a straight stretch of road. As a function of driving speed, this innovative control system automatically

enlarges the area of visibility by expanding the light beam. In the City Light mode at speeds below 50 km/h a wider light footprint makes it easier to detect objects on the left-hand side of the road. In the Autobahn Light mode, on the other hand, the driver's field of visibility is expanded by increasing the headlight range and intensifying illumination on the left-hand side.

As soon as the driver switches on the foglamps, variable light distribution in the speed range up to 70 km/h or 50 mph ensures broader distribution of light and brightens up the area directly in front of the car. And at higher speeds headlight range is also increased over and above the broader light distribution.

## 8. Equipment and Accessories: More Space for Innovations and Individual Style.



- BMW iDrive with direct selection buttons featured as standard.
- Lane Change Warning, Lane Departure Warning, Speed Limit Info, BMW Night Vision with detection of persons.
- Head-Up Display and innovative services from BMW ConnectedDrive for greater comfort, safety and infotainment.

The truly unique character of the BMW 5 Series Gran Turismo results from the car's harmonious blend of elegance, space, comfort, and variability. Indeed, each of these facets may be further accentuated and highlighted in many different ways through the wide range of equipment and accessories available for the BMW 5 Series Gran Turismo. The progressive control concept, the wide range of standard features as well as numerous innovative driver assistance systems, comfort features and entertainment options provide ideal conditions for motor-ing in style, enjoying sheer luxury on long tours, and a modern, active lifestyle with all the variability and freedom of choice so important to the discerning motorist.

A number of features offered either as standard or as an option in the BMW 5 Series Gran Turismo are exclusive BMW developments not available from any other car maker. The leadership in technology provided by BMW in general and the BMW 5 Series Gran Turismo in particular is borne out, among other things, by the cockpit and climate control instruments in Black Panel technology, the iDrive control system including direct selection buttons, the unique range of navigation and audio functions complete with a hard disc memory, the Head-Up Display, and the unusual choice of innovative driver assistance systems.

The options to exchange information among the driver, his car and the sur-roundings provided by BMW ConnectedDrive with its latest features are likewise unparalleled and quite unique.

### **The cockpit: clear structure, innovative technology.**

Through its structure alone, the cockpit perfects the driver orientation so typical of BMW, providing a consistent layout of driver-relevant and comfort-oriented functions in the interest of genuine supremacy at the wheel. Black Panel



technology on the instrument cluster, for example, combines classic looks with innovative finish, the entire system being made up of a high-resolution colour display, control and warning lights, as well as four circular instruments in the traditional style of a sports car, providing information on the most important driving functions.

The display is also able to present information on route guidance and recommended lanes provided by one of the optional navigation systems. The largest range of functions on the display comes in connection with the Professional navigation system, the display itself forming a homogeneous black surface when not in use bearing only the chrome-coloured surrounds open at the bottom, the indicator needles, the scale markings for the round instruments, as well as the red warning field on the rev counter permanently to be seen.

The numbers on the circular dials, in turn, like the integrated signals for current fuel consumption and the remaining range the vehicle is able to cover, are shown electronically, thus becoming visible, like all other symbols on the display, only when the system is activated.

#### **BMW iDrive with direct selection and favourite buttons.**

The BMW 5 Series Gran Turismo comes as standard with the BMW iDrive control system for all entertainment, information, navigation and telecommunication functions either featured as standard or available as an option. Arranged in the optimum ergonomic position, the Controller allows convenient and intuitive selection and activation of functions through standardised tipping, turning and pressing movements. An image of the Controller shown in the Control Display as well as the clear menu structure ensure easy orientation in choosing the next step in the operating process.

The Control Display measuring either 7.5 inches in its standard version or, in conjunction with the optional Professional navigation system, 10.2 inches, is integrated at exactly the right height and distance from the driver in the instrument panel, allowing superior operation with the driver hardly taking his eyes off the road.

Using the direct selection buttons on the Controller, the driver or front passenger are able to change particularly quickly between the various CD, radio, telephone and navigation functions, the range of direct selection buttons being rounded off by the three MENU, BACK and OPTION keys.

The eight favourite buttons on the centre console, in turn, allow the user to save and directly select not only radio stations, telephone numbers and navigation destinations, but also further menu items available via iDrive.

Yet another unique feature of BMW iDrive is the multi-mode control of functions by voice entry and the Controller. The user is indeed even able to change from one of these two entry modes to the other without the slightest problem even while handling a specific task or operation, with voice entry as well as the Controller remaining active at the same time for simultaneous use.

### **Navigation system Professional with hard disc memory.**

The benefits of BMW iDrive also pay off in using the optional navigation system, with the presentation of maps in high-resolution graphics and with route guidance arrows available on both the navigation system Business and the navigation system Professional. Full-screen map presentation by navigation system Professional also offers a detailed overview of the region the driver is currently going through, with maps as well as individual symbols presented in three-dimensional graphics. Indeed, even an elevation map is available for extra convenience.

Selected sights en route are highlighted by way of realistic graphics like a photo, while a preview map makes it even easier for the user to choose his destination.

As an alternative to full-screen presentation, the Control Display may also provide an assistance window offering either further presentations, information from the on-board computer, or data on the entertainment programmes available.

A special map perspective under the item "Highlight Traffic Conditions" offers a visual overview of the latest traffic jams and congestion reports.

The High Guiding function complete with integrated driving lane recommendations transmits detailed perspectives such as bending rules at an unclear road junction from the screen directly to the instrument cluster and, where fitted as an option, to the Head-Up Display.

The Travel Planer with its Guided Tours function ensures utmost convenience in planning tours by combining individual destinations to put together the user's personal tour. On request the system will then select the most attractive route and include the stopovers chosen by the driver in the overall route.

BMW ConnectedDrive also offers the BMW Routes function as yet a further option. In this case the user is able to choose his personal routes with up to 50 stopovers compiled with the help of a Route Planner in the Internet. Then the routes saved in this way may be conveniently called up directly in the car through BMW Online or downloaded through a USB stick into the navigation system, which will subsequently guide the driver along the route selected to his destination, even providing additional information on sights on the route as the driver and his passengers proceed.

On the navigation system Professional all navigation data is saved on an 80 GB hard disc. The data carrier firmly installed within the car serves furthermore to establish the user's individual, personal music archives, downloading music files from, say, a CD, an external MP3 player or a USB stick, with storage capacity on the hard disc of more than 12 GB provided for this purpose.

**Perfectly networked: BMW ConnectedDrive with new functions.**

The sheer scope and magnitude of optional BMW ConnectedDrive services available to the driver of the BMW 5 Series Gran Turismo is equally fascinating. Indeed, BMW ConnectedDrive allows the appropriate, situation-based transmission of information serving to enhance the level of driving comfort, optimise the safety of all occupants, and choose modern infotainment services. The range of mobility services in areas such as traffic information, emergency call functions, vehicle, enquiry and office services, tour and leisure-time planning as well as in the internet is quite unique the world over.

Through the BMW Assist service, BMW ConnectedDrive offers the customer a wide range of user-oriented support in all kinds of situations before even setting out, while travelling, and at the customer's destination. In all, BMW Assist comprises the Enhanced Emergency Call function with automatic establishment of the car's location, enhanced traffic information, a comprehensive enquiry service, as well as the My Info interactive communication channel including the Send-to-Car function.

BMW TeleServices enable the user, to mention just one example, to automatically agree on a service date with his workshop. In this case data compiled through the Condition-Based Service on-board diagnostic system on the condition of components subject to wear and tear is transferred to the customer's BMW Service Partner automatically over a telephone line.

Over and above all these features, the new remote functions offered by BMW ConnectedDrive now enable rescue services the world over to determine the precise location of the car and to lock and open the doors as required, once the driver has authorised himself, again in the interest of extra convenience.

**Always remaining exactly on course: Lane Change Warning, Lane Departure Warning, Speed Limit Info.**

Various driver assistance systems offered by BMW ConnectedDrive ensure maximum supremacy and safety on the road. Lane Change Warning available on the BMW 5 Series Gran Turismo, for example, uses radar sensors at the back of the car to monitor traffic conditions on the adjacent lanes and in the driver's blind angle. As soon as the driver sets the direction indicator, showing that he plans to change lanes, while another vehicle is in the way, he will receive a warning signal by an LED flashing on and off on the base of the exterior mirror housing. He will also be warned by discreet but absolutely clear vibration on the steering wheel that there is another vehicle in the vicinity.

Lane Departure Warning determines any unintentional departure from the driver's current lane. The system is made up of a camera fitted on the windscreen near the interior mirror, a control unit for comparing data, and a signal actuator causing the steering wheel to vibrate, urging as the driver to correct the steering. The camera monitors road marks on at least one side of the lane, as well as their distance from the car and the edges of the road. It is even able to look ahead about 50 metres or 165 feet and may also be used at night as soon as the headlights are switched on.

In combination with the navigation system Professional the BMW 5 Series Gran Turismo also offers optional Speed Limit Info informing the driver at all times on the speed limit currently determined on the route he is taking. The camera fitted near the interior mirror permanently monitors speed signs at the side of the road as well as variable signs overhead an Autobahn or motorway, comparing the data observed in this way with the data already saved in the navigation system. The speed limit determined is then shown in the instrument cluster.

As an option speed limit information may also be presented in the Head-Up Display. This display system quite unique in its broad range of functions supplies the driver with all relevant information pertaining to driving conditions by numbers and symbols in his direct line of vision, information and warning signs being projected on to the windscreen for optimum perception without the driver being required in any way to take his eyes off the road.

**From superior precision to supreme safety: BMW Night Vision with detection of individual persons.**

BMW is the world's first car maker to offer a night vision system complete with detection of persons and an appropriate warning function. Indeed, the new generation of BMW Night Vision available for the BMW 5 Series Gran Turismo sets new standards in avoiding accidents while driving at night.

The central element of the system is a thermal imaging camera delivering a moving video picture in which the driver is able to see people, animals and other objects also outside of the headlight beam through high-resolution presentation in the Control Display.

Now the system is being supplemented for the first time by the precise recognition of persons, with video data being analysed by a control unit which, applying intelligent algorithms, looks specifically for pedestrians and then highlights any persons detected by way of a yellow colour in the video image. And should the system see that a specific person is possibly at risk, the driver will receive an additional warning.

**Cruise control with brake function featured as standard, Active Cruise Control with Stop & Go as an option.**

Featured as standard, cruise control with a brake function acts on engine management, the choice of gears and the brakes in order to consistently maintain the speed chosen by the driver. The system permanently registers lateral acceleration of the vehicle and, where necessary, helps to reduce road speed by intervening in engine management and the brakes in order, for example, to avoid any loss of comfort in bends. It also helps the driver to drive downhill in a smooth and controlled process – also when towing a trailer – if necessary by intervening in the brakes.

Active Cruise Control with Stop & Go relieves the driver of his usual chores even more effectively and with even greater efficiency. Available as an option for the BMW 5 Series Gran Turismo, this highly sophisticated control system also includes an automatic distance control function allowing the driver to cruise along smoothly in flowing autobahn or country road traffic, while always maintaining an appropriate distance from the vehicle ahead in stop-and-go traffic at minimum speed.

The driver nevertheless – quite intentionally – retains his responsibility at the wheel, being required, for example after a short stop of more than three seconds, to re-accelerate the car either by briefly pressing down the

brake pedal or by pressing the Resume button. And even when Active Cruise Control with Stop & Go is active, the driver is able to influence the speed of the vehicle at any time by giving gas or applying the brakes.

Active Cruise Control with Stop & Go uses the latest generation of radar sensors. As soon as the car remains below the minimum distance from the vehicle ahead set by the driver, the system adjusts the speed of the car by intervening in drivetrain management and building up brake pressure in accordance with current requirements. The maximum deceleration allowed by Active Cruise Control with Stop & Go is 4 metres/sec<sup>2</sup> and is limited at higher speeds to a more comfortable 2.5 metres/sec<sup>2</sup>.

Should the driver preferably intervene because the driver ahead is braking all-out, he is urged to do so by optical and acoustic signals. At the same time the response thresholds for the Brake Assistant are lowered and the Brake Standby function of DSC Dynamic Stability Control is activated.

### **Everything in clear view: Park Distance Control (PDC), Back-Up Camera, Side View and Top View.**

The new BMW 5 Series Gran Turismo comes as standard with PDC Park Distance Control at the rear and is available as an option with the same system at the front. This is supplemented by a Back-Up Camera projecting pictures in colour and in the right perspective on to the Control Display.

A further option is Side View using two cameras integrated in the front wheel arches to monitor cross-traffic at a very early point in time. The images recorded by these cameras are transmitted to the Control Display and in particular offer the driver a good overview of traffic conditions to the left and right in front of the car when leaving narrow and hard-to-see driveways or parking buildings.

Top View provides an even more detailed and clearer overview, using two additional cameras integrated in the exterior mirrors. The data provided by these cameras, the Side View cameras, the Back-Up Camera and the PDC sensors on the car and its surroundings are processed by a central computer generating an overall image presenting the car and its surroundings from a bird's-eye perspective and enabling the driver to manoeuvre with particular precision within the tightest space.

**Multi-function steering wheel, electronic gear selector lever and Dynamic Drive Control all featured as standard.**

The BMW 5 Series Gran Turismo is available with a new generation of steering wheels in three-spoke design for active motoring. The standard steering wheel incorporates multi-function buttons arranged in the same way as the cockpit in general. The control elements for driving-related functions are on the driver's side, comfort functions are activated and masterminded from the opposite side.

In its layout and overall configuration, the centre console likewise invites the driver to maintain an active style of motoring. Both the control unit for Dynamic Drive Control and – next to it – the Controller for BMW iDrive are positioned around the electronic gear selector lever on the centre console, appropriately facing the driver. In addition, there are two cupholders on the centre console for extra convenience.

Apart from the large glove compartment there are also storage boxes in the door panels and around the centre console, pockets on the back of the front seats and an additional compartment between the driver's door and the steering wheel providing extra space.

**Automatic air conditioning and seat adjustment for personal well-being.**

The buttons for adjusting the seats are arranged in exactly the right ergonomic position on the outside of the seats themselves. The buttons serving to activate the seat memory function standard on the BMW 550i Gran Turismo and optional on all other model variants, in turn, are housed in the door panel.

On models featuring single seats at the rear, the buttons for adjusting the seats are likewise accommodated in the door panel on either side, individual fore-and-aft seat adjustment in that case being fully electrical, just like the adjustment of backrest angle, the top end of the backrest, and the height of the headrest.

As an option fore-and-aft adjustment of the rear seats and the rear-seat tilting function together with the adjustment of the partition may also be activated electrically by a set of buttons in the luggage compartment.

A set of keys in the centre console allows the driver and front passenger to make all desired adjustments of the automatic air conditioning featured as standard in the BMW 5 Series Gran Turismo. The settings currently chosen are presented on a display in the centre console finished, like the cockpit displays, in Black Panel technology. The driver and front passenger are therefore able to control the temperature, air volume and distribution individually for the right and

left side of the car via a control unit in the climate control area, adjusting the fully automatic control function directly on the climate control panel in five stages of intensity to their personal preferences.

Four-zone automatic air conditioning featured as standard in the BMW 550i Gran Turismo and available as an option on all other model variants also allows individual control of temperature, air volume and distribution on the left and right side at the rear, featuring a separate control panel for this purpose on the rear centre console.

### **Entertainment systems: personal programmes and supreme sound.**

The audio system featured as standard in the BMW 5 Series Gran Turismo comes complete with a CD player and an AUX-In port. A six-DVD player, a TV module and a receiver for Digital Audio Broadcasting (DAB) are all available as options.

The entertainment systems available on the rear seats of the BMW 5 Series Gran Turismo ensure particularly comfortable motoring with time simply flying. Each of these systems comes with two displays measuring either 8 or 9.2 inches in the front-seat backrests, two earphones and two AUX-In ports as well as a DVD player and a remote control unit serving, among other things, to connect external audio and video units.

Yet a further point is that the passengers at the rear are able with these control systems to use all audio and video sources in the car, even enjoying their favourite TV programmes while travelling.

The Control Display and the displays at the rear with the optional TV module allow both analogue and digital TV reception, with only the sound signal (no picture) being presented at the front while driving for reasons of safety.

### **Hands-free use of the mobile phone and full integration of Smartphones.**

The new mobile phone preparation kit complete with a Bluetooth interface for making phone calls while driving ensures additional safety and convenience. In this case the mobile phone is operated safely and conveniently from buttons on the multi-function steering wheel, with the option to present not only the telephone directory in the mobile phone itself, but also lists of calls and connections in the instrument cluster.



A specially developed snap-in adapter including a USB port comes as an option for the fully integrated operation of Smartphones with an MP3 function. Using this option, the driver and passengers are able to use all the communication and entertainment functions of their mobile phone, controlling all features through the iDrive control system.

Yet another special feature coming as standard on the BMW 5 Series Gran Turismo is the world's only and quite unique Integrated Owner's Manual. Like a conventional computer program, this very helpful amenity gives the driver information on all features of his car via iDrive at the touch of a button, presenting operating instructions very clearly through animations complete with sound information and slide shows. Short, easy-to-understand texts and interactive graphics promote the rapid uptake of information.

For additional transport capacity, the BMW 5 Series Gran Turismo is available complete with a towbar connecting in full to the on-board system in order to automatically activate the Trailer Stability Control function of DSC Dynamic Stability Control when towing a trailer.

Via a switch in the luggage compartment, the complete towbar unit moves in and out fully automatically and with utmost convenience, no longer requiring the user to do anything by hand and possibly make himself dirty in the process. Maximum trailer load is 2,100 kg or 4,630 lb.

## 9. Production: From Absolute Precision to Premium Quality.



- Weight optimised through the use of aluminium and high-strength steel as well as innovative production technologies.
- Customer-oriented production with permanent quality control.
- BMW Plant Dingolfing winner of the Best Factory 2008 Award.

The BMW 5 Series Gran Turismo is built at BMW Plant Dingolfing, which specialises in the production of models in the upmarket segments. Accordingly, Plant Dingolfing, BMW's largest plant worldwide, builds all versions of both the new BMW 7 Series as well as the BMW 6 and the BMW 5 Series.

The integration of yet a further model in the production process further increases the flexibility of the plant in using the existing production facilities and at the same time offers new opportunities for increasing efficiency in production.

BMW Plant Dingolfing has been part of BMW's global production network since 1967, the network itself now comprising 23 production plants in 12 countries. Numerous prizes and awards confirm the outstanding qualities of this unique car production plant in Lower Bavaria, which so far has built more than seven million BMWs as clear proof of more than forty years of success.

### **Lightweight construction with innovative production methods.**

To establish the lightweight construction methods also required for the BMW 5 Series Gran Turismo in Dingolfing, BMW has once again invested in innovative production technologies in Dingolfing in recent times. The range of facilities for weight-optimised lightweight construction and for the implementation of modern design requirements has been expanded, making allowance for the far greater challenge of moulding aluminium as opposed to – conventional – steel. As with the new BMW 7 Series where appropriate modifications were introduced only recently, special production technologies have been newly developed for the BMW 5 Series Gran Turismo. One example is the production of aluminium doors with frameless side windows now featured for the first time on a large-scale production model, the new aluminium processing technology setting the foundation for the fine contours and lines of the most sophisticated design features such as the character line in the doors at the side.

The large load-conveying aluminium plate shells around the door body ensure maximum stiffness, both laser welding and structure bonding serving to efficiently join the individual panels and components. The use of aluminium doors alone reduces the weight of each vehicle by approximately 28 kg or 62 lb.

Apart from the doors, the engine compartment lid and the front spring supports on the body are also made of this sophisticated lightweight material. In producing the weight-reduced front section of the car BMW uses an intelligent mix of joining methods such as bonding, riveting, MIG- or laser-welding, depending on individual requirements and load conditions.

**New: artificial intelligence for enhanced quality assurance.**

Quality management systems permanently optimised by way of numerous function and reliability tests in all areas of production ensure the fulfilment of BMW's strict quality requirements. One of the most innovative methods used at BMW Plant Dingolfing is artificial intelligence serving to supervise the quality of the car's highly sophisticated on-board electronics, electronic troubleshooting facilitating the detection of possible defects among the vast amount of data handled. Automated inspection of virtually every detail therefore makes an important contribution to enhancing the efficiency of production and ensuring the unique premium quality of BMW cars.

**Modular strategy for customer-oriented production.**

A highly sophisticated system – BMW's Customer-Oriented Sales and Production Process (COSP) – ensures that each and every car is built exactly on time and in particular according to the customer's personal wishes and requirements.

Full maintenance of the COSP process is ensured, among other things, by highly flexible production based on the most sophisticated logistics and very efficient processes. Above all the assembly processes benefit from pre-assembled modules delivered as complete units to the production line, with the complete front end, for example, being assembled separately as an individual module delivered just-in-sequence to the Assembly Shop, reducing the number of job processes then actually required in assembly.

The bodies-in-white for the various models are built in any sequence required and mixed according to production management. In conjunction with the prompt delivery of modules, this allows highly flexible and, in particular, lean production, minimising the storage area required and enabling the BMW Plant to respond quickly and efficiently to customer requests and, where applicable, any changes.

In contrast to the largely automated processes in the Pressings Shop, the Bodyshop and Paintshop, the human being comes right in the middle of things in the Assembly Area. This, quite simply, is because the human being with his hands is able to work in almost 30 different directions and angles, while even the most advanced industrial robot is not able to handle more than seven different operating levels at the very most.

**Supreme competence in lightweight aluminium construction.**

The BMW Group's Aluminium Competence Centre is also based in Dingolfing, conducting research activities and innovative developments benefiting all brands within the BMW Group. Just one example is that the Dingolfing Plant supplies the aluminium bodyshells for Rolls-Royce. And now the large share of aluminium components within the overall body structure of the BMW 5 Series Gran Turismo calls more than ever before on the outstanding competence of the experts in Dingolfing.

**BMW's long-standing plant serving as a role model for efficiency and quality.**

BMW Plant Dingolfing, employing some 20,000 associates and therefore BMW's largest plant the world over, builds about 1,300 cars a day. In a comparison of performance standards, BMW Plant Dingolfing, so rich in tradition, stands out through supreme quality and efficiency. This year the BMW Group's Suspension and Powertrain Components Division in Dingolfing won the Industrial Contest for The Best Factory/Industrial Excellence Award 2008, making BMW the first car maker to win this European award since its introduction in 2002. The Award honours the outstanding production management ensured by the most productive manufacturing facility in Europe. And in this contest not only the operative unit as such is considered, but rather all processes along the complete production and logistics chain – from the supplier all the way to the final customer.

Apart from winning the Bavarian Quality Award in 2003, the Suspension and Powertrain Components Division was also the first operation within the automotive industry to win the most significant German award for corporate quality, the Ludwig Erhard Prize, in November 2005. In 2006, in turn, the Plant received the European Quality Award, the highest-ranking European award for all-round corporate excellence.

The Suspension and Powertrain Components Division in Dingolfing, forming part of the BMW Group's worldwide production network, has become the Group's Competence Centre for vehicle suspension and axle transmission systems, delivering components to all BMW car production plants in Germany and abroad.

# 10. Specifications.



## The BMW 5 Series Gran Turismo.

<b>Body</b>		<b>535i</b>	<b>550i</b>	<b>530d</b>
No of doors/seats		4/5	4/5	4/5
Length/width/height (unladen)	mm	4,998/1,901/1,559	4,998/1,901/1,559	4,998/1,901/1,559
Wheelbase	mm	3,070	3,070	3,070
Track, front/rear	mm	1,611/1,654	1,621/1,636	1,611/1,654
Turning circle	m	12.2	12.2	12.2
Fuel capacity, approx	ltr	70	70	70
Cooling system incl heater	ltr	9.3	11.4	8.9
Engine oil capacity	ltr	6.5	8.5	7.2
Weight, unladen, to DIN/EU	kg	1,940 (2,015)	2,060 (2,135)	1,960 (2,035)
Max load to DIN	kg	630	630	630
Weight, max permissible	kg	2,570	2,690	2,590
Axle load, front/rear	kg	1,165/1,470	1,245/1,500	1,180/1,475
Max trailer load				
braked (12%/unbraked)	kg	2,100/750	2,100/750	2,100/750
Max roofload/towbar download	kg	75/100	75/100	75/100
Luggage comp capacity	ltr	440/590/1,700	440/590/1,700	440/590/1,700
Drag coefficient	C <sub>d</sub> x A	0.31 x 2.57/0.80	0.32 x 2.57/0.82	0.30 x 2.57/0.77
<b>Power Unit</b>				
Engine configuration/cylinders/valves		Straight-six/4	V/8/4	Straight-six/4
Engine management		Direct injection (High Precision Injection), turbocharged (TwinPower Turbo) and fully variable valvetrain (Valvetronic)	Direct injection (High Precision Injection), turbocharged (TwinPower Turbo)	1,800 bar common rail direct injection with piezo-injectors and turbocharger with variable turbine geometry
Capacity	cc	2,979	4,395	2,993
Stroke/bore	mm	89.6/84.0	88.3/89.0	90.0/84.0
Compression ratio	:1	10.2	10.0	16.5
Fuel grade		RON 91 (minimum)	RON 91 (minimum)	Diesel
Max output*	kW/hp	225 (306)	300 (407)	180 (245)
at	rpm	5,800	5,500–6,400	4,000
Max torque	Nm/lb-ft	400	600	540
at	rpm	1,200–5,000	1,750–4,500	1,750–3,000
<b>Electrical System</b>				
Battery/location	Ah/–	90/luggage compartment	90/luggage compartment	90/luggage compartment
Alternator	A/W	180/2,520	180/2,520	180/2,520
<b>Chassis and Suspension</b>				
Suspension, front		Double-wishbone front axle, aluminium; steel springs		
Suspension, rear		Integral-V-multilink suspension, aluminium, air springs, with optional steering (Integral Active Steering)		
Drive stability systems		Standard: DSC including ABS, Cornering Brake Control (CBC), Dynamic Brake Control (DBC), Automatic Stability Control (ASC), Electronic Brake Force Distribution (EBD), Trailer Stability Control, Drive Dynamic Control (DDC). Optional: Adaptive Drive = Variable Damper Control (VDC) with anti-roll stabilisation (Dynamic Drive)		
Driver assistance systems		Optional: Lane Departure Warning, Lane Change Warning, Speed Limit Info, Head-Up Display, Night Vision with pedestrian recognition, Enhanced Emergency Call, Concierge Service, Internet Access (BMW ConnectedDrive/BMW Assist); Active Cruise Control + Stop & Go (ACC)		
Brakes, front		Single-piston swing-calliper disc brakes		
Diameter	mm	348 x 36 (vented)	374 x 36 (vented)	348 x 36 (vented)
Brakes, rear		Single-piston swing-calliper disc brakes		
Diameter	mm	345 x 24 (vented)	370 x 24 (vented)	345 x 24 (vented)
Steering		Rack-and-pinion hydraulic steering with speed-dependent servo assistance (Servotronic); 3.1 turns lock- to-lock; optional rear-wheel steering (Integral Active Steering)		
Ratio	:1	19.1	19.1	19.1
Gearbox		Eight-gear automatic transmission with Steptronic		
Gear ratios	I-VIII	4,696; 3,130; 2,104; 1,667; 1,285; 1,000; 0,839; 0,667		
	R	:1	3,300	3,300
Final drive ratio	:1	3,080	3,080	2,560
Tyres		245/50 R18 runflat	Front: 245/45 R19 Rear: 275/40 R19 runflat	245/50 R18 runflat
Wheels		8J x 18 aluminium	Front: 8.5J x 19 aluminium Rear: 9.5J x 19 aluminium	8J x 18 aluminium

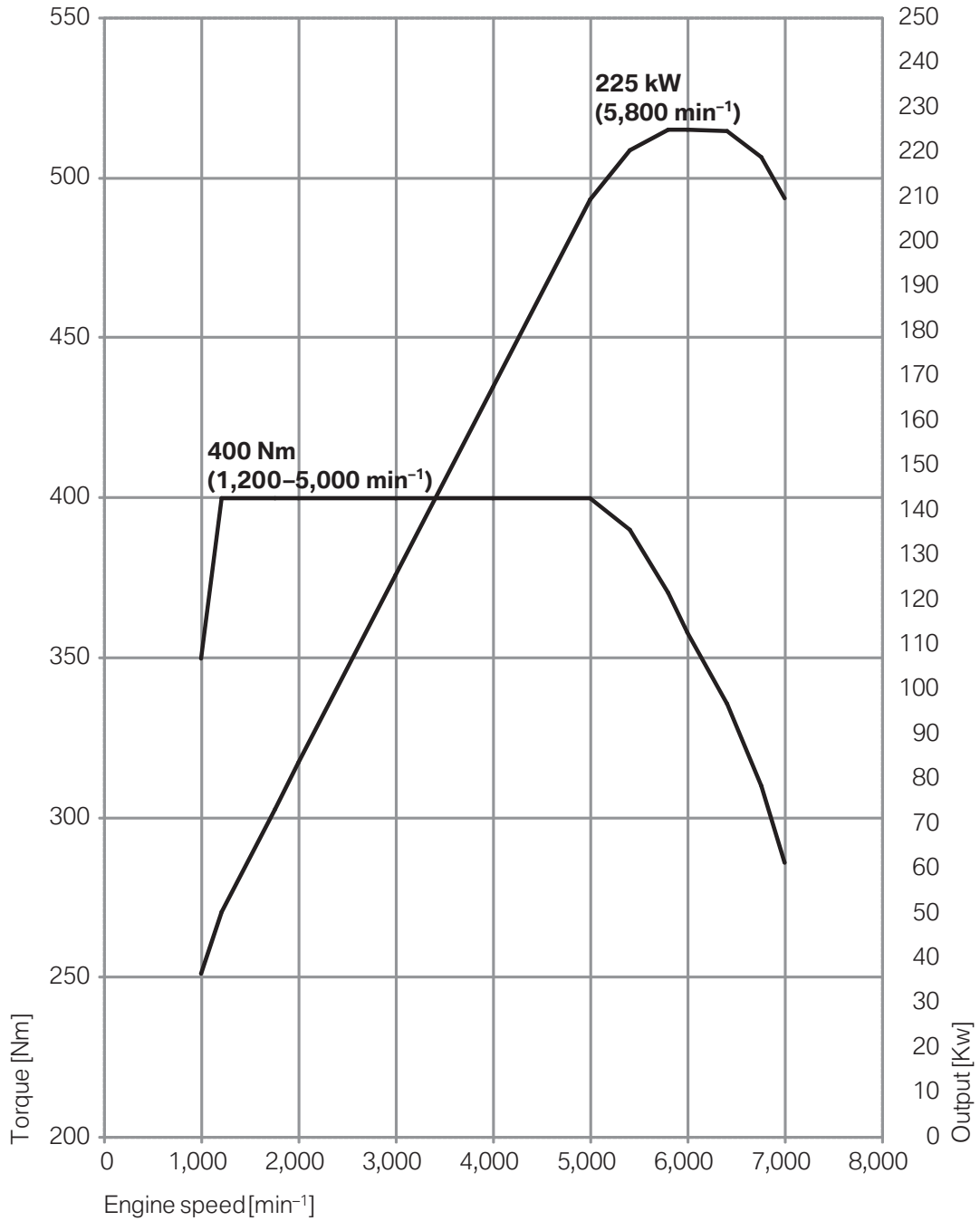
		<b>535i</b>	<b>550i</b>	<b>530d</b>
<b>Performance</b>				
Power-to-weight ratio to DIN	kg/kW	8.6	6.9	10.9
Output per litre	kW/ltr	75.5/102.7	68.3/92.9	60.1/81.7
Acceleration 0–100 km/h	sec	6.3	5.5	6.9
Top speed	km/h (mph)	250	250	240
<b>Consumption</b>				
Urban	ltr/100 km	12.3	16.2	8.1
Extra-Urban	ltr/100 km	6.9	8.3	5.6
Combined	ltr/100 km	8.9	11.2	6.5
CO <sub>2</sub>	g/km	209	263	173
CO <sub>2</sub> emissions	BMW EfficientDynamics featured as standard: Brake Energy Regeneration, active aerodynamics, low resistance tyres, intelligent lightweight design, intelligent energy management			
<b>Miscellaneous</b>				
Emissions standard		EU5	EU5	EU5

\* on RON 98 fuel (535i, 550i)

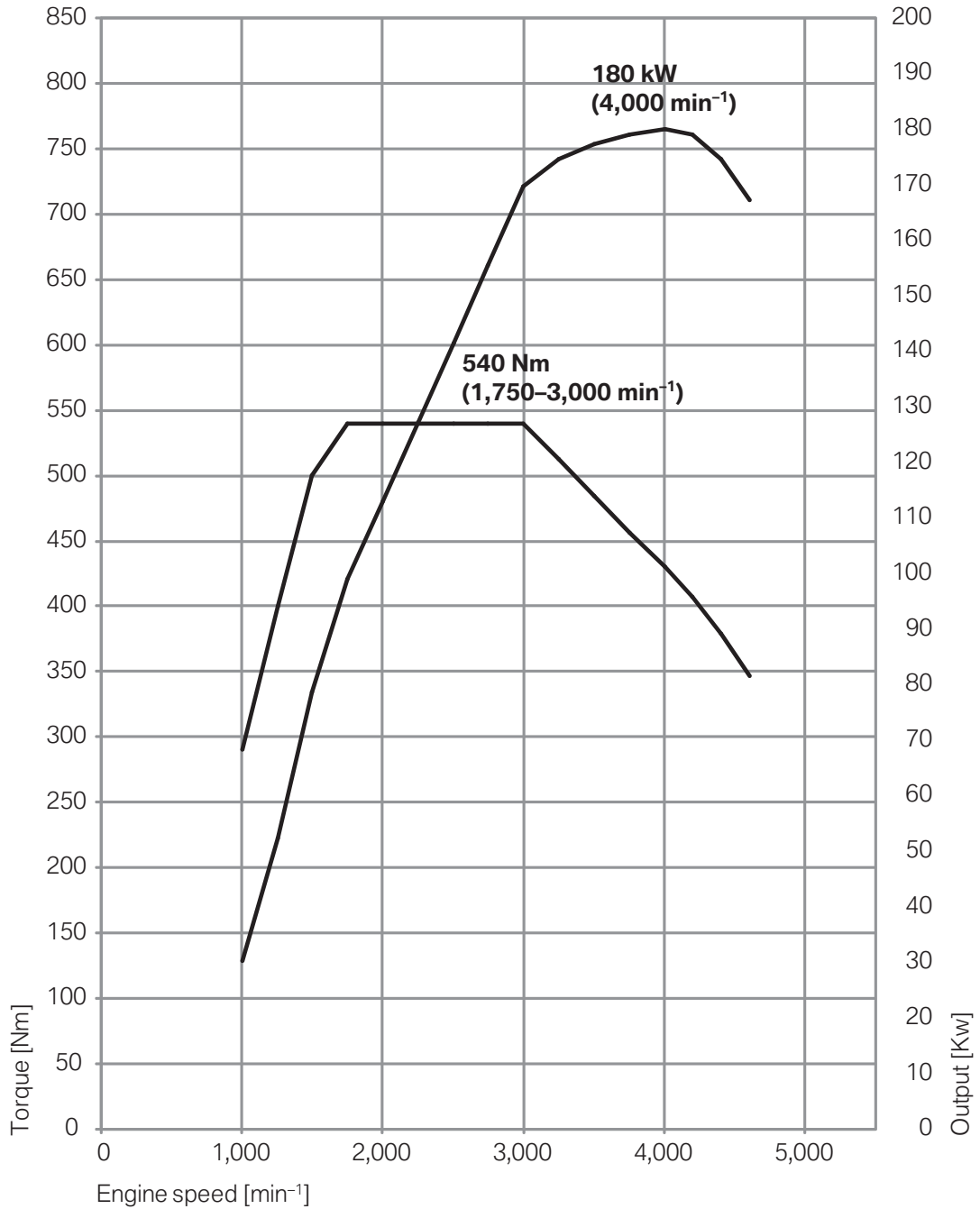
# 11. Output and Torque Diagrams.



The BMW 535i Gran Turismo.

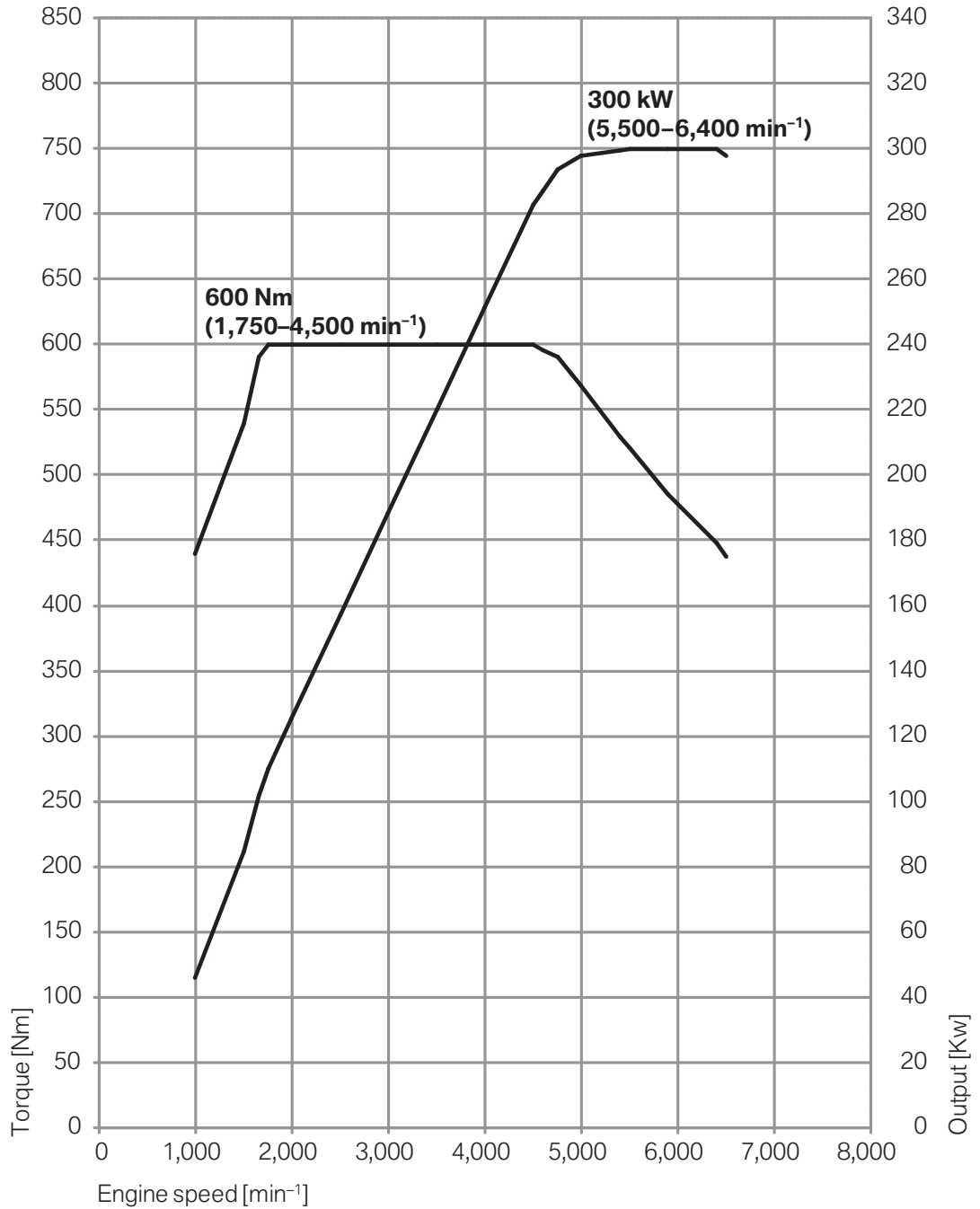


**The BMW 530d Gran Turismo.**





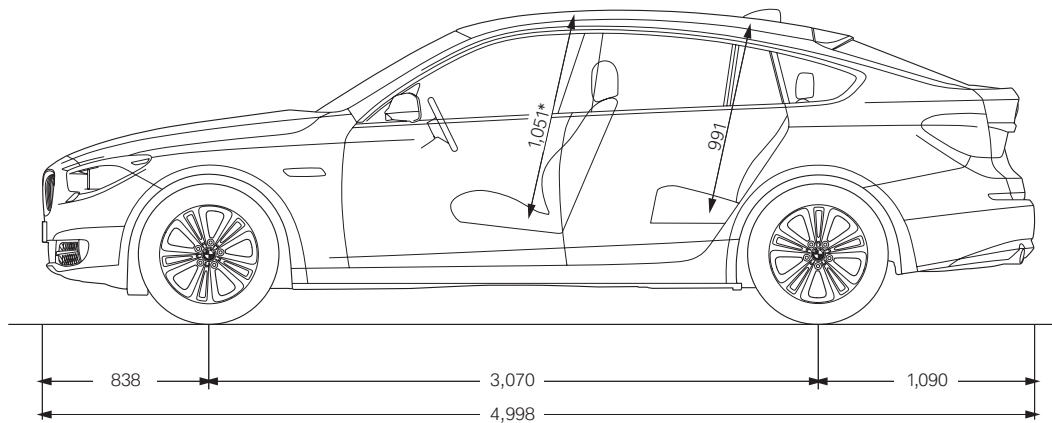
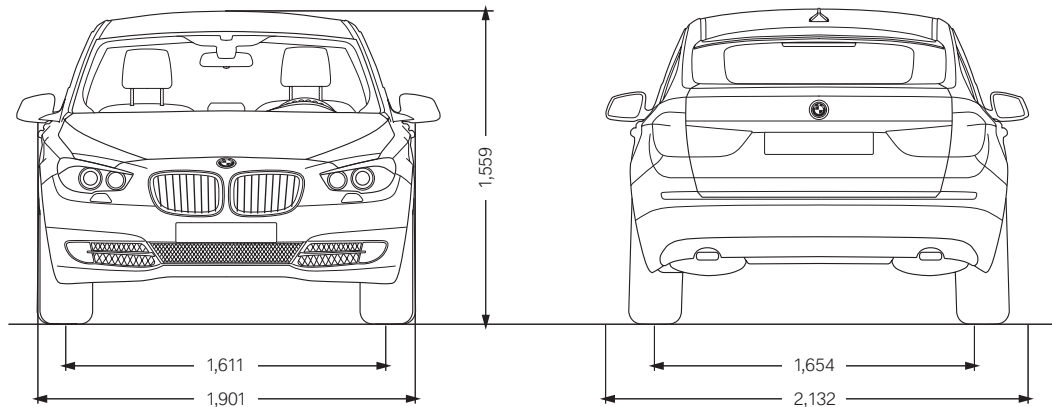
### The BMW 550i Gran Turismo.



## 12. Exterior and Interior Dimensions.



### The BMW 5 Series Gran Turismo.



\*max. headroom

