

## The new 2008 Mercedes-Benz A-class

Stuttgart &dash; With more than 500,000 units produced within three and a half years, the A-Class is among the bestsellers in the Mercedes-Benz passenger car range. Now the latest generation of this compact car is showing itself to be more youthful, attractive and environmentally compatible than ever before. This is ensured by a completely revised design, high-grade appointments and new technical developments which further improve safety, comfort and economy. A convenient ECO start-stop function which reduces urban petrol consumption of these BlueEFFICIENCY vehicles by up to nine percent is now available for the high-volume models A 150 and A 170, for example. For the three-door A 160 CDI Mercedes-Benz has developed an additional BlueEFFICIENCY package which lowers the fuel consumption of the Coupé by more than eight percent, to 4.5 litres per 100 kilometres. Independent experts have acknowledged these great advances in the environmental field with an internationally valid environmental certificate, which the A-Class is the world's first compact car to achieve.

Since its world premiere in 1997, the A-Class has made a name for itself as a trendsetter and innovative leader in its class. Outstanding safety, great day-to-day flexibility and reliability have always been among the strengths of the A-Class, which has so far captured the enthusiasm of about 1.7 million customers with its distinctive and versatile vehicle concept. In spring 2008 Mercedes-Benz is presenting the five-door Saloon and the three-door Coupé in completely upgraded versions. Viewed from the front, this compact Mercedes-Benz now appears more youthful and self-confident than before. The sweeping lines of the newly designed headlamps harmoniously combine the front end and flanks, which literally appear to be cast from a single mould. The redesigned front bumper reinforces this impression; its lower air intake is now much larger, emphasising the width of the body. The radiator grille is also in a new design which underlines the progressive aura of the A-Class. Lines: ELEGANCE and AVANTGARDE with an even more pronounced styling emphasis. Design features at the front end provide more distinctions between the design and equipment lines of the A-Class. While the louvres in the radiator grille of the basic version are painted in dark-grey, they are respectively in metallic atlas grey and high-sheen iridium silver in the ELEGANCE and AVANTGARDE lines, and are also visually upgraded by additional chrome strips. Discreet chrome trim strips further reinforce this impression. In the AVANTGARDE line, the front bumper also has a distinctive design which emphasises the arrow-shape of the front end and suggests greater agility. When viewed from the side the different lines in the A-Class are distinguished by wheel designs. While the basic model is equipped with 15-inch wheels and seven-spoke wheel embellishers as standard, ELEGANCE and AVANTGARDE are fitted with individually designed 16-inch light-alloy wheels. The new, larger exterior mirror housings and door handles are now painted in the vehicle colour for all model variants. The previous side rubbing strips have been replaced by discreet chrome trim strips, which provide additional visual highlights in the ELEGANCE and AVANTGARDE models. The rear end of the A-Class is dominated by a modified bumper and newly designed rear light clusters which extend well into the vehicle flanks. Both these features make the body appear wider and therefore more imposing. In the ELEGANCE and AVANTGARDE models the rear bumper is embellished with additional, reflector-look trim strips and chrome inserts. The new, ergonomically improved tailgate handle is chrome-plated in both lines, as is the oval exhaust tailpipe. Interior: upgraded with larger stowage compartments and new fabrics. Mercedes designers paid particular attention to enhanced value when redesigning the interior, choosing new, high-grade upholstery fabrics and door linings. In the ELEGANCE and AVANTGARDE lines the seats are upholstered in an attractive combination of ARTICO man-made leather and fabric, which is available in three colours. In addition new decorative trim of smoke-grey, diagonally brushed aluminium enhances the interior of the AVANTGARDE line, while the dignified aura of the ELEGANCE models is heightened by wood trim. All variants of the A-Class share a larger stowage compartment in the centre console and a newly designed cupholder between the front seats. The luxury seat package with seat cushion angle adjustment and lumbar support, seat height adjustment for the driver's seat, a front armrest and a parcel net in the front passenger footwell is standard equipment for ELEGANCE and AVANTGARDE models. Fuel economy: the A 160 CDI BlueEFFICIENCY consumes 4.5 litres. With fuel consumption figures between 4.9 and 8.1 litres per 100 kilometres, the new-generation A-Class is a model of fuel economy. Thanks to detailed improvements, the fuel consumption of the state-of-the-art direct-injection diesel engines has been reduced by more than eight percent or 0.5 litres per 100 kilometres compared to the preceding series. From autumn 2008 Mercedes-Benz will introduce a standard BlueEFFICIENCY package for the three-door A 160 CDI with a manual transmission, with further improvements in engine efficiency, aerodynamics, rolling resistance, energy management and weight. The sum of these measures achieves a fuel saving of 0.4 litres, which means that the A 160 CDI BlueEFFICIENCY has an NEDC consumption of just 4.5 litres per 100 kilometres. As a result the CO<sub>2</sub> emissions of the 60 kW/82 hp Coupé are 119 grams per kilometre. The BlueEFFICIENCY package also includes an aerodynamically optimised radiator grille. This has a closed-off interior face to reduce the airflow to the engine, though the CDI engine is still cooled effectively at all times. The suspension has also been lowered by ten millimetres to reduce the drag coefficient even further. Mercedes engineers have exploited an additional fuel-saving potential by controlling the onboard power supply of the A 160 CDI BlueEFFICIENCY according to demand, and therefore on an energy-saving basis. A sensor constantly monitors the battery so that the output of the generator can be reduced for certain periods when the battery is well charged. This reduces the work required of the engine, which therefore consumes less fuel. To recharge the battery with optimum energy efficiency, the generator management system utilises the engine's overrun phases to produce electrical energy. Start-stop function: the engine switches off automatically when idling. In the case of the petrol engines, Mercedes engineers have achieved NEDC fuel savings of up to 0.4 litres per 100 kilometres with a newly developed ECO start-stop function. From autumn 2008 this system will be available for the high-volume models A 150 and A 170 on request. It automatically switches off the engine when the driver shifts the manual transmission to neutral at a low speed while applying the brakes. If the conditions for engine switch-off are met, the driver is informed by a special display in the instrument cluster. Within fractions of a

second, and almost noiselessly, the engine is restarted as soon as the clutch is operated or the brake released. This rapid and comfortable engine start is a major advantage of the ECO start-stop function versus other systems of this kind. To this end Mercedes-Benz uses a starter generator which is linked to the crankshaft via the drive belt. As a result the engine starts much more rapidly and quietly than with the conventional starter. During a journey the starter generator feeds electrical power to the onboard network of the A-Class.

**Economy:** nine percent lower fuel consumption in city traffic. With the ECO start-stop function the NEDC fuel consumption is reduced by a further 6.5 percent or so. The A 150 BlueEFFICIENCY (70 kW/95 hp) absolves a measured test journey with a fuel consumption of 5.8 litres per 100 kilometres, which corresponds to 139 grams of carbon dioxide per kilometre. Even greater advantages can be achieved in normal road traffic, as the results of extensive practical trials have confirmed: Mercedes employees tested the system in 175 test cars, covering a total of around 1.2 million kilometres. Roughly half of this enormous mileage was covered in city traffic, where the new ECO start-stop function enabled fuel savings of up to nine percent to be achieved.

**Ecology:** the A-Class is the first compact car with an environmental certificate. Practical trials such as this are of immense importance to Mercedes-Benz when it comes to evaluating new technologies. The environmental compatibility of vehicles is not only assessed on the basis of standardised emissions and fuel consumption measurement, but also taking into account the entire vehicle lifecycle – from production and many years of operation to eventual recycling and disposal. An analysis of more than 40,000 individual processes provides an overall picture and enables the development work to be objectively assessed. This form of environmental audit is the basis of the environmental certificate according to the stringent international ISO standard 14062 (Design For Environment), which Mercedes-Benz is the world's only automobile brand to have received. This certificate also applies to the new-generation A-Class, confirming the considerable advances made in the field of environmental protection. An analysis over a vehicle mileage of 150,000 kilometres shows that CO<sub>2</sub> emissions are around seven percent below the figure for the preceding model (W168) of 2004, for example. Nitrogen oxide emissions have been reduced by no less than 13 percent. Even better results are achieved by the A 150 BlueEFFICIENCY with the ECO start-stop function. Thanks to this new technology, carbon dioxide emissions over the entire lifecycle are reduced by a further five percent, which means that the environmental audit shows a remarkable reduction in CO<sub>2</sub> emissions by more than twelve percent compared to the preceding model.

Aspects other than favourable fuel consumption and low exhaust emissions are also important for the environmental certificate. For example the recycling concept of a vehicle: the A-Class already meets the EU regulation coming into force from 2015, which prescribes a recycling rate of 95 percent. Plastic components with a total weight of 30.8 kilograms can be produced from high-grade recyclates – twice the figure achieved for the preceding model. The A-Class also demonstrates its environmentally compatible concept by the use of renewable raw materials. Mercedes-Benz has various components of the compact car produced with the use of flax, olive stones, cotton, coconut fibre, wood veneers and abaca fibres. The weight of these components has increased by one third versus the preceding model. Detailed information about environmental audits may be found in a Mercedes-Benz brochure, which is available on the internet at [www.media.daimler.com](http://www.media.daimler.com).

**Safety:** flashing brake lights warn following traffic. The adaptive brake light introduces technology from the luxury class into the compact segment, which therefore benefits from a further accident prevention system as a standard feature. Under emergency braking from a speed exceeding 50 km/h, the brake lights flash rapidly to warn following traffic, enabling drivers to respond quicker and prevent a collision. Flashing brake lights are the result of extensive practical research covering the braking behaviour of drivers. Mercedes engineers found that the braking responses of drivers are on average 0.2 seconds faster in emergency braking situations if a flashing red warning is given in place of conventional brake lights. The stopping distance can be reduced by around 4.40 metres from a speed of 80 km/h, and even by around 5.50 metres from a speed of 100 km/h. If the A Class is brought to a rapid stop from a speed exceeding 70 km/h, the hazard warning system is switched on in addition to the flashing brake lights. The A-Class sets standards in this market segment where occupant protection is concerned, with two-stage front airbags, belt tensioners in the front and for the outer rear seats, belt force limiters, active front head restraints and head/thorax sidebags. Mercedes-Benz has now added to this extensive safety technology with crash-responsive emergency lighting for the interior. This is switched on automatically following an accident of a defined severity, providing the occupants with better orientation and facilitating the work of the emergency services.

**Parking assist:** ultrasound and electric steering for easier parking. When finding and reversing into a parking space, drivers of the A-Class will in future be aided by an active parking assist feature which is available on request for all model variants. Using side-mounted ultrasonic sensors, this system identifies suitable parking spaces on both sides of the road in passing, then informs the driver by means of a display. The sensors are active up to a speed of 35 km/h, and monitor the area to the left and right of the A-Class. They measure the length and depth of possible parking spaces, indicating that the search is in progress with a " P " in the instrument cluster. Once a suitable parking space has been found, an arrow appears in the display to inform the driver on which side of the road the parking space is located. If he engages reverse gear, acknowledges the display message and accelerates, active parking assist takes over the steering and automatically manoeuvres the car into the parking space. The driver only needs to accelerate and operate the brakes; the ultrasonic sensors of the PARKTRONIC system assist him in this by keeping him informed about the distance to the vehicle in front of and behind the A-Class. Active parking assist uses a total of ten ultrasonic sensors in the front and rear bumpers, as well as an electronic control unit which processes the sensor signals and calculates the best possible entry path into the parking space. This information is fed to the electromechanical power steering, whose electric motor performs the necessary steering movements of its own accord. The parking space only needs to be 1.30 metres longer than the A-Class for this automatic parking procedure to take place – an indication of the great precision of this technology. Thanks to its very compact dimensions, a parking space with a length of just 5.18 metres or so is sufficient; there is currently no other car able to park automatically in such a small space. Mercedes engineers have also added a new function to a well-proven support system: the Electronic Stability Program (ESP®) of the A-Class now has an automatic hill-holder function which prevents the car from rolling

backwards when the driver changes from the brake pedal to the accelerator when moving off on an uphill gradient. In these situations ESP® maintains the brake pressure for a short time, so that the driver can move off smoothly. Audio: new units offer Bluetooth, a colour display and Europe-wide navigation. Like all the new 2008 Mercedes models, the A-Class is available with further improved information, communication, navigation and entertainment systems &ndash; in other words infotainment. There is a choice of four optional head units:

Audio 5, Audio 20, Audio 50 APS and COMAND APS. From Audio 20 these incorporate a radio with twin tuner, colour display, a Bluetooth interface for a mobile phone, a telephone keypad, a CD-player, automatic volume adjustment and a connection for external audio units in the glove compartment. Audio 50 APS is also equipped with a Europe-wide DVD navigation system and a DVD drive, while the top-of-the-range COMAND APS features HDD navigation, a music register, a slot for SD memory cards and voice control. The LINGUATRONIC system operates the telephone, audio and navigation system by convenient whole-word commands. The driver need no longer spell out his wishes, but simply needs to say what he wants when entering a destination, selecting a radio station or accessing an entry in the telephone directory. Interface: the "iPod" can be operated via the keys on the steering wheel. More scope for mobile musical enjoyment is provided by a newly developed, interactive media interface, which is able to connect an MP3-player, USBstick or other external audio unit with the infotainment system of the car. This means that external audio units can be conveniently operated using the keys on the multifunction steering wheel, while the titles of music tracks are shown in the instrument cluster and on the colour display in the centre console. While the portable audio unit is connected to the car via the media interface, its battery is charged. Connection of an iPod or similar requires a suitable cable which is available from the Mercedes-Benz accessories range. The award-winning "Logic 7®" surround sound system, which celebrated its world premiere in the S-Class, is also available for the A-Class. The system has an output of 450 Watts and features twelve loudspeakers (Coupé: ten).